Persons wishing to receive the College Catalogue or desiring any information concerning the College or its work, may address

R. W. SILVESTER, President,
Maryland Agricultural College,
College Park, Maryland.

C. & P. Telephone, Hyattsville 4.
Telegraph Station, Hyattsville, Md.
U. S. Express Office, College Station, Md.
Train Service, B. & O. R. R.
Trolley Service, from Laurel or Washington, City and Suburban R. R.

THE

MARYLAND

AGRICULTURAL COLLEGE

COLLEGE PARK, MARYLAND

1856 1909

CATALOGUE

1909-10

Persons wishing to receive the College Catalogue or desiring any information concerning the College or its work, may address

[illegible] W. [illegible], [illegible],

Maryland Agricultural College,

College Park, Maryland.

C. & P. Telephone, Hyattsville 4.
Telegraph Station, Hyattsville, Md.
U. S. Express Office, College Station, Md.
Train Service, B. & O. R. R.
Trolley Service, from Laurel or Washington, City and Suburban R. R.

THE

MARYLAND

AGRICULTURAL COLLEGE

COLLEGE PARK, MARYLAND

1856 1909

CATALOGUE

1909-10

BOARD OF TRUSTEES.

MEMBERS EX-OFFICIO.

His Excellency, AUSTIN LANE CROTHERS, President.

HON. JOSHUA W. HERING,
Comptroller of the Treasury.

HON. ISAAC LOBE STRAUS,
Attorney-General.

HON. MURRAY VANDIVER,
State Treasurer.

HON. JOSEPH E. SETH,
President of the Senate.

HON. J. ENOS RAY,
Speaker of the House of Delegates.

HON. JAMES WILSON,
Secretary, United States Department of Agriculture.

MEMBERS REPRESENTING STOCKHOLDERS.

HON. RICHARD S. HILL, M. D., Upper Marlboro, Md.
CHARLES H. STANLEY, Esq., Laurel, Md.
E. GITTINGS MERRYMAN, Esq., Cockeysville, Md.
J. HAROLD WALSH, Esq., Upper Falls, Md.
F. CARROLL GOLDSBOROUGH, Esq., Easton, Md.

MEMBERS APPOINTED BY THE GOVERNOR.

J. M. MUNROE, Esq.. Annapolis, Md.	Term	expires	1910.
JOHN HUBERT, Esq., Baltimore, Md.	"	"	1910.
W. LEE CAREY, Esq., Berlin, Md.	"	"	1912.
HON. DAVID SEIBERT, Clear Spring, Md.	"	"	1912.
ROBERT CRAIN, Esq., Baltimore, Md.	"	"	1914.
CHARLES A. COUNCILMAN, Esq., Glyndon, Md.	"	"	1914.

STANDING COMMITTEES OF THE BOARD OF TRUSTEES.

COMMITTEE ON AGRICULTURE.

MESSRS. COUNCILMAN, VANDIVER, SEIBERT, GOLDSBOROUGH AND CRAIN.

COMMITTEE ON FINANCE.

MESSRS. VANDIVER, MERRYMAN, WALSH, MUNROE AND HERING.

COMMITTEE ON EDUCATION.

MESSRS. GOLDSBOROUGH, WALSH, HERING AND SETH.

COMMITTEE ON FACILITIES FOR INSTRUCTION.

MESSRS. MUNROE, RAY, HILL AND CAREY.

COMMITTEE ON AUDITING.

MESSRS. VANDIVER AND STANLEY.

COMMITTEE ON EASTERN BRANCH.

MESSRS. MERRYMAN, CAREY AND GOLDSBOROUGH.

COMMITTEE ON BUILDINGS AND GROUNDS.

MESSRS. HUBERT, COUNCILMAN, HILL AND STANLEY.

EXECUTIVE COMMITTEE.

MESSRS. STANLEY, GOLDSBOROUGH, HUBERT, MUNROE AND SEIBERT.

OFFICERS AND FACULTY OF INSTRUCTION.

FACULTY AND INSTRUCTORS.

R. W. SILVESTER, LL. D., PRESIDENT,
Professor of Mathematics.

THOMAS H. SPENCE, A. M., VICE PRESIDENT,
Professor of Languages.

H. B. McDONNELL, B. S., M. D., STATE CHEMIST,
Professor of Chemistry.

W. T. L. TALIAFERRO, A. B.,
Professor of Agriculture.

HENRY T. HARRISON, A. M.,
Professor in Charge of Preparatory Department, Assistant Professor of Mathematics, Secretary of the Faculty.

JAMES S. ROBINSON,
Emeritus Professor of Horticulture.

SAMUEL S. BUCKLEY, M. S., D. V. S.,
Professor of Veterinary Science.

F. B. BOMBERGER, B. S., A. M.,
Professor of English and Civics, Librarian.

CHARLES S. RICHARDSON, A. M.,
Professor of Oratory, Assistant Professor of English, Director of Physical Culture.

J. B. S. NORTON, M. S., STATE PATHOLOGIST,
Professor of Vegetable Pathology and Botany.

T. B. SYMONS, M. S., STATE ENTOMOLOGIST,
Professor of Entomology and Zoology.

HARRY GWINNER, M. E.,
Professor of Mechanical Engineering.

C. P. CLOSE, M. S., STATE HORTICULTURIST,
Professor of Horticulture.

T. H. TALIAFERRO, C. E., PH. D.,
Professor of Civil Engineering, Electrical Engineering and Physics.

EDGAR T. CONLEY, CAPTAIN, U. S. A., COMMANDANT,
Professor of Military Science.

W. J. SOWDER, M. S.,
Associate Professor of Horticulture.

MYRON CREESE, B. S., E. E.,
Assistant Professor of Physics and Electrical Engineering.

GRANVILLE HIBBERD, B. S. A.,
Assistant Professor of Animal Husbandry.

H. L. CRISP,
Assistant Professor of Mechanical Engineering.

L. M. PEAIRS, M. S.,
Instructor in Entomology and Zoology and Assistant in State Work.

ALVAH J. NORMAN, B. S. A.,
Instructor in Vegetable Pathology and Botany and Assistant in State Work.

FREDERICK F. MASON, B. S., M. E.,
Instructor in Mechanical Engineering.

I. V. STONE, B. S., A. M.,
Instructor in Chemistry.

FRANK COLE, B. S.,
Assistant in Chemistry.—State Work.

R. B. DEEMER, B. S.,
Assistant in Chemistry.—State Work.

F. W. BESLEY, A. B., M. F., STATE FORESTER,
Lecturer on Forestry.

OTHER OFFICERS.

HARRY NALLEY, M. D.,
Surgeon.

FRANK R. KENT,
Registrar and Treasurer.

WIRT HARRISON,
Executive Clerk.

MISS LILIAN I. BOMBERGER,
Matron in Sanitary Department.

MRS. M. D. MASON,
Matron in Domestic Department.

MISS M. L. SPENCE,
Stenographer.

A. W. MYERS,
Stenographer.

GRAYSON BAGGS,
Clerk.

L. G. SMITH, SERGEANT, U. S. A. (Retired).
Armorer and Assistant to Commandant.

FACULTY COMMITTEES.

COMMITTEE ON COLLEGIATE ROUTINE: Messrs. Spence (Chairman), McDonnell, W. T. L. Taliaferro, Buckley, Bomberger, Richardson, Norton, Symons, Sowders, Gwinner, Harrison, T. H. Taliaferro.

COMMITTEE ON ALUMNI: Messrs. Buckley (Chairman), Bomberger, Symons.

COMMITTEE ON FINANCE: Messrs. Harrison (Chairman), Richardson, Symons, Norton, Bomberger.

COMMITTEE ON SCHEDULE: Messrs. Gwinner (Chairman), Spence, Harrison, T. H. Taliaferro.

COMMITTEE ON DISCIPLINE: The Commandant (Chairman), The President, The Vice-President.

COMMITTEE ON AMUSEMENTS: Messrs. Symons (Chairman), Conley, Bomberger, Crisp, Creese, Peairs, Stone.

COMMITTEE ON ATHLETICS: Messrs. Richardson (Chairman), Harrison, Bomberger.

COMMITTEE ON LIBRARY: Messrs. McDonnell (Chairman), W. T. L. Taliaferro, Bomberger, Gwinner, Norton.

COMMITTEE ON STUDENT RECORDS: Messrs. Bomberger (Chairman), Buckley, Spence.

COMMITTEE ON SOCIETIES: Messrs. Richardson (Chairman), Gwinner, Mason, Norman.

THE SCIENCE SECTION: Messrs. W. T. L. Taliaferro (Chairman), McDonnell, Buckley, Norton, Symons, Gwinner, Close, T. H. Taliaferro, Sowder.

COMMITTEE ON COMMENCEMENT: Messrs. Harrison (Chairman), Spence, Bomberger, Richardson.

COMMITTEE ON CATALOGUE: Messrs. Norton (Chairman), Spence, McDonnell, T. H. Taliaferro.

COMMITTEE ON SANITATION: Doctors Nalley (Chairman), McDonnell, Buckley.

COMMITTEE ON STUDENT PUBLICATIONS: Messrs. Bomberger (Chairman), Norton.

COMMITTEE ON STUDENT RELATIONS: Messrs. Bomberger (Chairman), Harrison, Richardson, Symons, Gwinner.

CALENDAR.

1909.

THIRD TERM

Monday, March 22nd —Third Term Begins.
Wednesday, April 7th, noon. to Tuesday, April 13th, 1 P. M.—Easter Recess.
Thursday, May 17th—Submitting of Theses.
Sunday, June 13th—Baccalaureate Sermon.
Monday, June 14th—Class Day.
Tuesday, June 15th—Alumni Day.
Wednesday, June 16th, 11 A. M.—Commencement Day Exercises.

1909-1910.

FIRST TERM

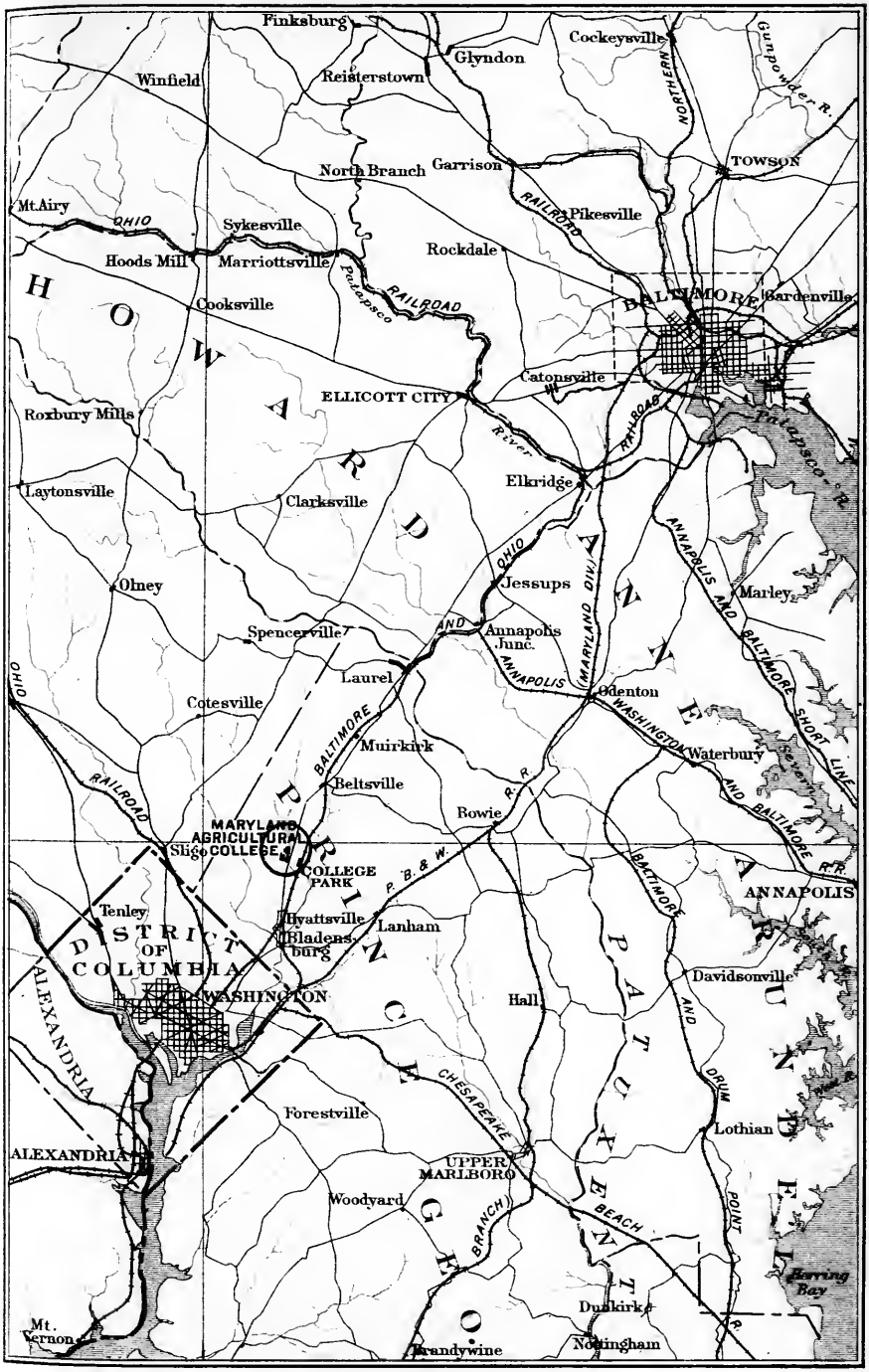
Tuesday. September 14th, and Wednesday, September 15th—Entrance Examinations.
Thursday, September 16th, 1 P. M.—College Work Begins.
Friday, December 17th, noon—First Term Ends.
Friday, December 17, noon, to Monday, January 3rd, noon—Christmas Recess.

SECOND TERM

Monday, January 3rd, noon—Second Term Begins.
Tuesday, January 4th—Special Winter Term in Agriculture Begins.
Tuesday, February 1st—Filing Subjects of Theses.
Wednesday, March 23rd, noon—Second Term and Special Winter Courses in Agriculture End.
Wednesday, March 23rd, noon, to Tuesday, March 29th, 1 P. M.—Easter Recess.

THIRD TERM

Tuesday, March 29th, 1 P. M.—Third Term Begins.
Monday, May 16th—Submitting of Theses.
Friday, June 10th—Final Meeting of Trustees.
Sunday, June 12th—Baccalaureate Sermon.
Monday, June 13th—Class Day.
Tuesday, June 14th—Alumni Day.
Wednesday, June 15th, 11 A. M.—Commencement Day Exercises.



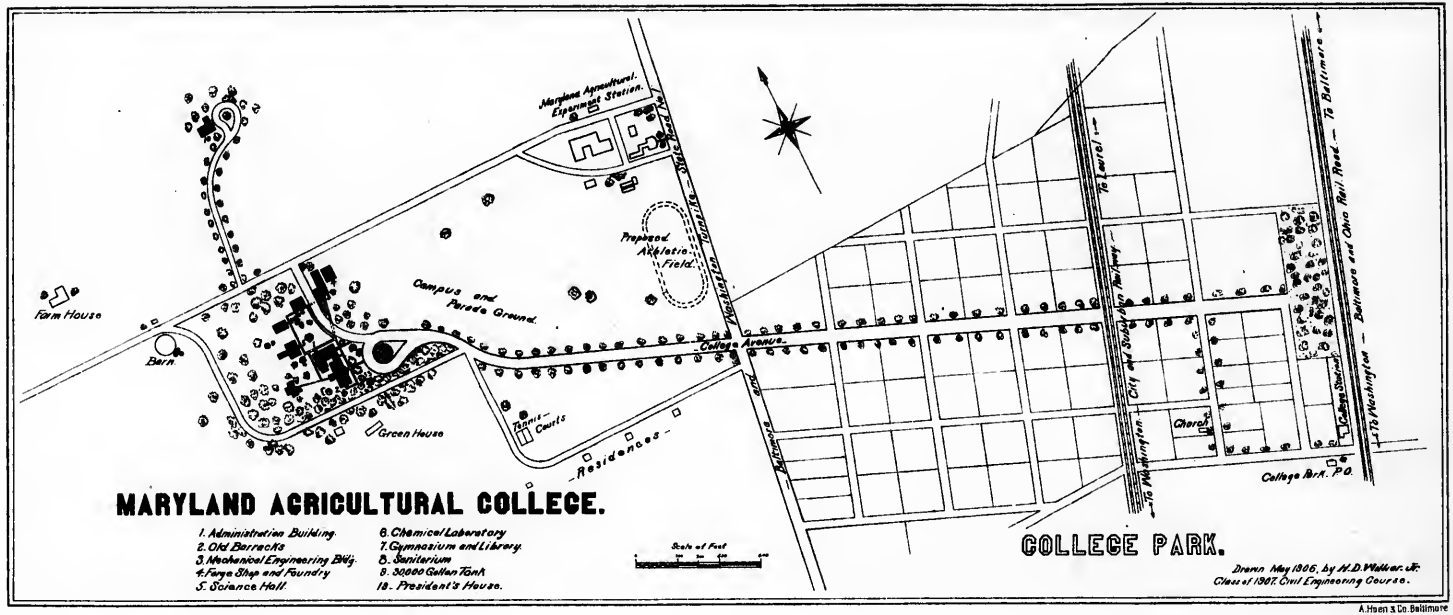
MAP SHOWING LOCATION OF

MARYLAND AGRICULTURAL COLLEGE.

A. Hoen & Co. Baltimore

8 7 6 5 4 3 2 1 0 8

8 miles - one inch



MARYLAND AGRICULTURAL COLLEGE.

1. Administration Building.
2. Old Barracks
3. Mechanical Engineering Bldg.
4. Forge Shop and Foundry
5. Science Hall.
6. Chemical Laboratory
7. Gymnasium and Library
8. Sanitarium
9. 30000 Gallon Tank
10. President's House.

COLLEGE PARK.

Drawn May 1906, by H.D. Walker Jr.
Class of 1907. Civil Engineering Course.

A. Hoen & Co. Baltimore

MARYLAND AGRICULTURAL COLLEGE.

HISTORY

An act to establish and endow an agricultural college in the State of Maryland was passed by the legislature of the State in 1856 (see Laws of Maryland 1856, Chapter 97). At that time no other institution of a similar character existed in the United States. Its express purpose was defined to be, "To instruct the youthful student in those arts and sciences indispensable to successful agricultural pursuit." Under the charter thus granted to a party of public-spirited private individuals, the original College building was erected, and its doors were opened to students in the fall of 1859.

For three years it was conducted as a private institution, but in 1862, the Congress of the United States, recognizing the valuable work in the cause of practical education which such colleges could achieve for the country, passed the "Land Grant Act." This Act granted each State and Territory which should claim its benefit a proportionate amount of unclaimed Western lands, in place of scrip, the proceeds from the sale of which should apply under certain conditions to the establishment and maintenance of at least one college in which the "leading object" should be, "without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States" might "respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." This grant having been formally accepted by the General Assembly of Maryland, and the Maryland Agricultural College being named as the beneficiary of the grant, the College thus became, in part, at least, a State institution, and such it is at the present time.

In 1892 the Federal Government passed a second act for the benefit of the agricultural and mechanical colleges. By the act of Congress of that year an annual appropriation of $15,000, to be

increased by $1,000 each year until the sum of $25,000 should be reached, was granted each State, to be applied to the further equipment and support of these colleges. The primary object of this legislation was the development of the departments of agriculture and the mechanic arts, and the branches kindred thereto. Maryland, in order to comply with the terms of the Act of Congress, divided this fund between the State Agricultural College and a somewhat similar institution for the education of colored students located at Princess Anne, on the Eastern Shore of Maryland.

In 1887 the Federal Congress passed an important act in aid of the agricultural interests, appropriating $15,000 a year in each state and territory, to be increased by $5,000 each year until the agricultural experiment stations. The Maryland Station was located on the College farm, and was made a department of the College. In 1892 the Board of Trustees so far separated it from the College as to put it under a special Director, who is immediately responsible to the Board. The function of the Experiment Station is the investigation of those agricultural problems of most interest and concern to the farmers of the State, and the publication and dissemination of the results of such experiments in the form of bulletins, for the information and guidance of those interested in agriculture. Since the organization of the Experiment Station, its influence has steadily increased, and its sphere of usefulness has constantly widened, until it is now a well recognized factor in the agricultural development of Maryland.

In 1906 Congress passed the Adams Act, a measure of further assistance for the experiment stations of the several States. By this act there is granted a gradual increasing appropriation for the experimental work of the stations, until such grant shall equal $15,000 per annum.

On March 4, 1907, the Nelson Bill became a law, whereby $5,000 was appropriated to aid the agricultural college in each state and territory, to be increased by $5,000 each year until the sum of $25,000 should be reached. This Act was in the nature

of an amendment to the Morrill Act of 1892, and will materially add to the efficiency of the latter.

During recent years the College has made a steady growth. This fact is evidenced by the increased number of students availing themselves of its facilities; by the erection of many new buildings—the library and gymnasium buildings, the chemical laboratory, Morrill Hall, the sanatarium, the administration building and barracks, and the new engineering building; as well as by the establishment of the Department of Farmers' Institutes and the State Departments of Horticulture, Entomology and Vegetable Pathology, and Chemistry (Fertilizer and Feed Control). Under such favorable auspices the institution has continued to grow, and has become the most important factor in the agricultural and industrial development of the State.

The State Bureau of Forestry, recently created, cooperates with the College, the Director being, by the terms of his appointment, Lecturer on Forestry at the Agricultural College.

LOCATION AND DESCRIPTION

The Maryland Agricultural College is located in Prince George County, Maryland, on the line of the Washington Branch of the B. & O. R. R., eight miles from Washington, and thirty-two miles from Baltimore. At least nine trains a day from each city stop at College Station, thus making the place easily accessible from all parts of the State. Hyattsville is the telegraph station. Telephone connection is made with the Chesapeake and Potomac lines.

The College grounds front on the Baltimore and Washington turnpike. The suburban town of Hyattsville is two and one-half miles to the south, and Laurel, the largest town in the county, is thirteen miles to the north on the same road. Connection with these towns and with Washington may be had by steam and electric railway. The site of the College is particularly beautiful. The buildings occupy the crest of a commanding hill, covered with forest trees, and overlooking the entire surrounding country. In front, extending to the turnpike, is a broad,

rolling campus, the drill ground and athletic field of the students. In the rear are the farm buildings and barn. A quarter of a mile to the northeast are the buildings of the Experiment Station. The College farm contains about three hundred acres, and is devoted to fields, gardens, orchards, vineyard, poultry yards, etc., used for experimental purposes, and demonstration work in agriculture and horticulture.

The general appearance of the College grounds is exceedingly attractive. They are tastefully laid off in lawns and terraces, with ornamental shrubbery and flower beds, and the view from the grove and campus cannot be surpassed.

The location of the College is healthful; the sanitary conditions are excellent. No better proof of this can be given than that there has been practically no serious cases of illness among the students for twelve years.

COLLEGE BUILDINGS

The original barracks, erected in 1859, is a five-story brick building, containing the student quarters and the Domestic Department. The dormitories are large, well ventilated and provided with fire escapes, bath and water rooms. All the buildings are lighted by gas and electricity and heated by steam from the central plant on the College grounds.

In 1894 the building used as the gymnasium and library was erected. The gymnasium, on the ground floor, is well furnished with modern athletic appliances. The library and reading room is on the second floor, and is large, well-lighted and convenient for the purpose.

In the fall of 1909 the Departments of Civil, Electrical and Mechanical Engineering and the department of Physics will be located in the two story brick building erected in 1896, the brick annex erected in 1904, and the brick addition now in course of construction. This latter, which consists of a main building four stories in height and a wing three stories in height, is so arranged as to form with the buildings previously erected, a concrete whole. In this group of buildings will be found laboratories of

various kinds, wood and machine shops, a forge room and foundry, drawing rooms, blue print rooms, instrument rooms, lecture rooms, offices, a library room, lavatories, etc. The equipment will be modern in every respect and the facilities for work in the above named departments will be greatly increased.

The chemical building was completed in 1897, and is now thoroughly equipped. It contains several lecture rooms and laboratories for practical work and the analysis of fertilizers and feeding material for domestic animals. This work is assigned by an Act of the General Assembly to the Professor of Chemistry at this College, who is thus the State Chemist.

Another addition to the group of College buildings is Morrill Hall erected in 1898. This building provides accommodations for the Departments of Agriculture, Horticulture, Entomology, Vegetable Pathology and Veterinary Science. A greenhouse for work in entomology and vegetable pathology was erected in 1904.

The College Sanitarium, completed in 1901, has proved a most efficient means of isolating infectious diseases which might otherwise have become epidemic, thus seriously embarrassing College work. It contains ample room for all emergencies, and is furnished with modern hospital facilities. An experienced nurse is in constant attendance, and the College surgeon is present every day at a fixed hour to prescribe for any cadet requiring his services.

Appreciating the needs of the institution, the State Legislature has from time to time appropriated funds wherewith buildings could be erected or renovated and equipment secured.

Among recent improvements are the dormitories, accommodating twice the number of students, an auditorium and offices in the Administration Building, added in 1904; a complete renovation of the original College barracks; a modern steam heating plant; gas and electric lighting; lavatories; steam laundry; forced ventilation, etc., all of which furnish quarters and classrooms with unusually good sanitary arrangements.

GENERAL AIM AND PURPOSE

The Agricultural College is the State school of science and technology. While seeking, first of all, to perform the functions of an agricultural college, its sphere of work has been widened to embrace all the sciences akin to agriculture, and all the arts related to mechanical training. To these special and prominent lines of work have been added such branches of study as are necessary for a liberal education, for the development of the intelligent citizen and the making of general culture. The purpose of this college is to give to young men anxious to prepare themselves for the active duties of life such training in the sciences or in the mechanical workshop as will enable them to take their places in the industrial world well prepared for the fierce competition of the day.

Recognizing that such an education, in order to be of practical advantage to many, must be offered at a cost within the means of all, the expenses for the year to the student have been reduced to the point where his college dues are not in excess of his ordinary daily expenses. It is to be remembered that the College is a State institution, in part supported by the State, in part by the Federal Government, through its several endowment Acts, and that it is in no sense a money-making institution, but simply a medium of disbursement by the Government to those classes upon whom the safety and prosperity of the State so largely depend.

While the College provides, as will hereinafter be explained, several distinct courses of instruction, looking to the special training of the student in agriculture, engineering and the sciences, the fact is clearly kept in view that a sound foundation must be laid for each and every course. Successful specialization is only possible after the student has prepared for it by a thorough training in the essentials. All education must be narrow and one-sided which does not provide for the general culture of the student, and which does not look first to the natural and normal development of the individual. The general working plan of the College may be thus described:

It begins with the student in his first, or Freshman, year with a systematic and carefully adjusted scheme of work, differing but little in the several courses, and looking to his general development in mental strength, range of information and power of expression and thought. At the beginning of his second, or Sophomore, year the differentiation may be said to begin along those lines in which he shows most natural aptitude. This gradual specialization continues during his third, or Junior, year, until in his last, or Senior, year, his work consists chiefly of a few closely connected topics, in which he is thus able thoroughly to prepare himself. With the present equipment of the laboratories and work-shops a student is able to become so proficient in his chosen line of work that when he leaves the College a successful career is open to him if he chooses to avail himself of it.

The Agricultural College is, legitimately, the crowning point of the public school system of Maryland. Its aim is to provide a higher education for the graduates of the county schools. To this end its curriculum is adjusted to meet the preparation of such students. It is this class of young men that the College is especially desirous of reaching. Experience has shown that our most satisfactory students come as graduates from the county schools, and no efforts will be spared to make the transition from the high school or grammar school to the College a possible one for all those actuated by an earnest desire to complete their education.

DEPARTMENTS OF THE COLLEGE.

AGRICULTURE—
  AGRONOMY.
  ANIMAL HUSBANDRY.
  FORESTRY.
BOTANY AND VEGETABLE PATHOLOGY.
CHEMISTRY.
CIVIL ENGINEERING.
ELECTRICAL ENGINEERING AND PHYSICS.
ENGLISH AND CIVICS.
ENTOMOLOGY AND ZOOLOGY.
HORTICULTURE.
LANGUAGES.
MATHEMATICS.
MECHANICAL ENGINEERING.
MILITARY SCIENCE.
ORATORY.
PHYSICAL CULTURE.
PREPARATORY.
VETERINARY.

The following pages give, under the several departments, the general character of the courses offered by each, and the main features of their equipment.

DEPARTMENT OF AGRICULTURE.

W. T. L. TALIAFERRO, PROFESSOR.

GRANVILLE HIBBERD, ASSISTANT PROFESSOR.

F. W. BESLEY, LECTURER ON FORESTRY.

The Agricultural Department offers three courses:

I. A four-year course leading to the degree of B. S.

II. A two-year course, for proficiency in which a certificate is awarded.

III. A ten-week winter course, for which credit is given toward the two-year or four-year course.

Education is transforming the farms into veritable workshops, whose products, in the aggregate, more than equal those of any other industry of the country, and under the influence of more general intelligence are capable of indefinite extension. In this work there is need of the trained investigator to discover the natural laws which underlie the phenomena of plant and animal life, and there is also need of educated farmers with skill and intelligence to receive these principles and apply them in practical farming.

These courses are so arranged as to furnish a good foundation upon which the student may build a successful career as a farmer, or develop into a specialist along some line pertaining to the farming industry. The studies to be pursued are recognized as being necessary to fully equip the student for the highest order of work, and for the greatest usefulness.

The College farm consists of two hundred and sixty-five acres of land, which is operated by the Maryland Experiment Station. Students of the agricultural course are made acquainted with the work of the Station from time to time, and because of the College and Station's close association an excellent opportunity is

afforded the student to study the cultivation and growing of crops, the application of manures and fertilizers, the care of stock, the selection of seed from growing crops, the judging of the several classes of animals, and all the work of the practical farmer.

DIVISION OF AGRONOMY

The division of Agronomy takes up the agricultural work pertaining to the field and its crops. A number of courses are offered. These treat of farm crops, their classification, adaptation to soil and climate and methods of culture; solis, their properties, and how to care for them and make them more productive and fertile by crop rotation, and by the application of manures and fertilizers; farm management, how to make the farm a source of pleasure and profit by employing economic business principles and practices; farm machinery, the kind of tools to use for preparing the land, cultivating and harvesting the crops. A new soil laboratory has been added to this department. In this laboratory the student has an excellent opportunity to study the physical properties of the different kinds of soil. A separate desk and ample apparatus is provided each student to perform experiments for himself.

COURSES OFFERED.

1. Farm Crops. In this course the production of farm crops is considered in detail as to history, uses and requirements, local adaptations, varieties, fertilization, cultivation and harvesting. A special feature is the study of crop improvement by breeding and selection. Very much of this work is of a practical nature in the laboratory or on the farm.

The texts used are Morrow and Hunt's "Soils and Crops," Shaw's "The Cereals In America," Shamel's "Corn Judging."

Freshman Year, Third Term; 6 practical periods per week. Sophomore Year, Third Term; two theoretical and four practical periods per week.

2. Soils. The study of the physical and chemical conditions of the soil in their relation to profitable agriculture. The soil is

the basis of all agriculture, and a knowledge of its properties and functions cannot be too highly emphasized. The study of this important subject is conducted by means of lectures, text-books, laboratory and field work. No State in the Union possesses a greater variety of soils than Maryland, and great attention is paid to the study of soil types in their relation to profitable agriculture.

A well equipped soil laboratory and the wide variety of soils found on the College farm offer exceptional advantages in the theoretical and practical study of this important subject.

The text-book used is "The Soil," by King.

Sophomore Year, First Term; 2 theoretical and 2 practical periods per week; Second Term; 2 theoretical and 4 practical periods per week.

3. Farm Drainage. Practical work in open ditching and under drains is provided for the students on the Experiment Station farm. Special attention is given to the principles and practice of tile drainage.

The text-book used in this course is Waring's "Drainage for Profit and Health.

Sophomore Year, Third Term; 2 theoretical and 4 practical periods per week.

4. Plant Production. This course is intended for those students only who are specializing in agronomy. It consists of field and laboratory work in the study of the handling of fall sown and fall harvested crops. Great attention is given in this course to a careful note-taking and study of the results obtained in breeding work in corn and other fall maturing crops on the Experiment Station farm.

Senior Year, First Term; 3 theoretical and 4 practical periods per week.

5. Fertilizers. Of vital interest to the eastern and southern farmer of the present day, is the fertilizer question. Between it and the profit and loss account is a very close connection, and frequently a lack of knowledge of the subject entails upon the

farmer both the loss of money paid and of the possible increase of the crop. In this course the subject is developed logically from the needs of the plant and the efficiency of the soil to the selecting of the proper plant foods for each crop under varying conditions of soil and climate. Special attention is given to the home mixing of fertilizers.

Sophomore Year, Third Term; 2 theoretical and 2 practical periods per week.

6. Farm Machinery. Lectures and practical work.

Senior Year, Third Term; 2 theoretical and 4 practical periods per week.

7. Farm Management. Lectures.

Senior Year, Third Term; 2 periods per week.

8. Advanced Work in Crop Production.

Senior Year, Third Term; 2 theoretical and 4 practical periods per week.

9. Advanced Work in Soils. Senior Year, Third Term; 2 theoretical and 4 practical periods per week.

10. Thesis and Research Work. To be arranged for with the head of the department.

Senior Year, Second and Third Terms; 2 theoretical and 4 practical periods per week.

GEOLOGY

11. Attention is given chiefly to physical geology. The latter half of the second term is devoted to the geology of Maryland, especially as affecting the character of the soils, mineral wealth and other economic conditions of the State. Instruction is given by means of text-book work, lectures and field excursions.

Shaler's "First Book in Geology," is used as a text-book. The reports of the Maryland Geological Survey are used for reference.

Freshman Year, First Term; 3 theoretical and 4 practical periods per week.

DIVISION OF ANIMAL HUSBANDRY

The division of Animal Husbandry stands for all lines of work which pertain to the judging, selecting, breeding, feeding, development, care and management of the various breeds and classes of domesticated animals. Good herds of stock are being established at the Maryland Agricultural Experiment Station which are of use to the student in his studies. In addition to the supply of stock on the farm the proximity of the College to Washington, Baltimore and the Government Quarantine Station, near Baltimore, makes it possible for the student to get excellent material for study. The Heurich dairy farm, close by, furnishes an excellent example in dairy farming. It is quite evident that there is but one way to make a young man a proficient judge of livestock, and that is by training the eye. In all of the lecture and laboratory work outlined in the courses the work is demonstrated with living specimens.

New dairy barns are erected at the Experiment Station. These are models of sanitation. A class-room for judging live stock is being planned for occupancy in the near future.

A growing library of herd-books is available to the student of pedigrees. These books give a fund of information concerning heredity, fecundity, and other breed characteristics.

COURSES OFFERED.

20. Breeds and Scoring. This course is devoted to the detailed study of the breeds of live stock. The practical work commences with a study of the animal form by the use of the score-card. Especial attention is given to the relation of form to function. First, the productive types are firmly fixed in the student's

mind; then he takes up more particularly breed characteristics. Judging occupies two double periods two afternoons per week.

Text-books in use are "Types and Breeds of Farm Animals," by Plumb, and "Judging Live Stock," by Craig.

Freshman Year, First Term; 2 practical periods per week. Junior Year, First Term; 3 theoretical and 4 practical periods per week.

21. Principles of Breeding. This course takes up the principles of breeding, including selection, heredity, atavism, variation, fecundity, in-and-in breeding, cross breeding and a historical study of their results.

Text-book: "Stock Breeding," Miles.

Junior Year, First Term; 3 theoretical periods per week.

22. Livestock Management. Lectures are given on the housing, feeding, care and management of dairy cattle, hogs and horses. The housing, feeding, care and management of beef cattle and sheep. The practical work in the spring term consists of applications of the work in the lectures, and takes up the drawing of barn plans and other stable conveniences.

Sophomore Year, First Term; 2 theoretical and 2 practical periods per week. Junior Year, Second Term; 2 theoretical periods per week; Third Term; 2 theoretical and 2 practical periods per week.

23. Dairying. Text-books: Wing's "Milk and Its Production," Russell's "Dairy Bacteriology."

Junior Year, Third Term; 3 theoretical and 4 practical periods per week.

24. Stock Judging. Special attention is paid to the judging of groups of animals, similar to county and state fair work.

Senior Year, First Term; 4 practical periods per week.

25. Herdbook. The herdbooks of the breeds of live stock are studied with a view of becoming acquainted with the pedi-

grees of the leading families of live stock, and the methods of recording the same. Here advanced work in animal breeding is taken up.

Senior Year, First Term; 2 theoretical and 2 practical periods per week.

26. Animal Nutrition. This course embraces the principles and practice of animal feeding. After covering the principles of nutrition, it takes up the composition of feeding stuffs, their combination into properly balanced rations, and the relation between the sustenance of animals and their products. Students entering this course should have completed courses in Organic Chemistry and Comparative Anatomy and Physiology.

Text-books: "Feeds and Feeding," Henry; "Feeding of Animals," Jordan.

Senior Year, Second Term; 4 theoretical periods per week Third Term; 4 theoretical and 4 practical periods per week.

27. Profitable Stock Feeding. This course treats of the feeding of animals in a most practical manner. Special attention is given to the feeding of breeding stock and the fattening of animals for market. There is no special requirement to enter this course, as in course 26.

Text-book: "Profitable Stock Feeding," by H. R. Smith.

Two-year Short Course students, Second Term of Second Year; 4 theoretical periods per week.

28. Research Work. Upon lines and subjects to be arranged with the department.

The object of this work is to develop independence and originality in the student, and also to give him a taste for personal investigation upon lines which are of particular interest to himself.

Junior Year, Third Term; 2 practical periods per week.

29. Thesis and Research. The investigations already begun in the Junior Year may be pursued throughout the Senior Year.

Other work is to be taken up, and may furnish a basis for the thesis. The time given this work will be arranged with the department.

DIVISION OF FORESTRY

The following courses in Forestry are offered:

40. GENERAL FORESTRY. Six lectures embodying a general survey of the subject, and its relation to agriculture and other industries.

41. FARM FORESTRY. Includes Forest Botany, Study of Tree Growth, Woodlot Management, Measurement and Valuation of Forest Crops, Nursery Practice and Tree Planting. Lectures, recitations and field work.

Text-book: "Principles of American Forestry," Green.

Senior Year, Second Term; 3 periods per week.

42. WOOD TECHNOLOGY. A study of common commercial woods, their structure, identification, uses and commercial value. Decay of woods and methods of preservation.

Senior Year, Second Term; 1 period per week.

DEPARTMENT OF BOTANY AND VEGETABLE PATHOLOGY.

J. B. S. NORTON, PROFESSOR.

ALVAH J. NORMAN, INSTRUCTOR.

The courses in Botany are intended to give such knowledge of the vegetable kingdom as is a proper element in general culture; to train the student mind in observation, comparison, generalization, and other mental processes essential to true scientific methods in any work, and to furnish a basis for practical studies directly connected with agriculture; for since plants are the subjects dealt with in the field and garden, the study of plant life must be one of the fundamental sciences upon which such work is based. In addition to the courses in pure botany, others of special economic trend are given. These are especially for students in the Agricultural and Horticultural courses, and take up such botanical studies of cultivated plants, plant diseases, etc., as may be useful in practical life to the professional farmer or gardener.

The equipment and means for illustration and demonstration, consist of a reference library containing the principal botanical works needed by students, charts and maps, compound and dissecting microscopes, preserved specimens for illustration, a representative collection of Maryland plants; microtome and other instruments, reagents and apparatus for histological work and physiological experiments; a culture room, sterilizers, incubators and other facilities for the study of plant diseases.

Advanced students have opportunity to observe the work being done in the laboratory of Vegetable Pathology and greenhouse of the State Horticultural Department, and, if competent, to assist in the same. Special attention is given to students who wish practice in the treatment of plant diseases, as it is the desire of the Department to encourage young men to engage in this work as a business.

60. GENERAL PRINCIPLES. An elementary course in the general principles of anatomy, morphology and physiology of the

higher plants. The structure and types of seed, root, stem, leaves, flower and fruit are studied in the laboratory, with a brief consideration of the functions of the different plant organs, a more complete course in plant physiology (62) being given later.

Also field work, with the manual on the native flora, designed to give a knowledge of the names of the common Maryland plants and their position in the classification of the vegetable kingdom. The ecology of the plants examined in the field is also taken up, considering their relation to soils, water supply, light and other factors in their environment, cross pollination, dissemination of of seeds, plant societies, etc. Each student makes a collection of at least fifty plants from some part of the State.

Bergen and Davis' "Principles of Botany" is the principal text-book used.

Reference books: Gray's "Field, Forest and Garden Botany," Britton's "Manual," Gray's "Manual," Britton and Brown's "Illustrated Flora."

Freshman Year, Third Term; 2 theoretical and 4 practical periods per week.

61. Plant Histology. Laboratory work with the compound microscope, studying the minute structure of the tissues and organs of the various types of plants. Each student prepares a series of sections for study with the microscope, from which he makes a set of outline drawings.

Steven's "Plant Anatomy" and Chamberlain's "Methods in Plant Histology" are the principal books used.

Sophomore Year, First Term; 1 theoretical and 6 practical periods per week.

62. Plant Physiology. Lectures and experiments on the life processes of plants; absorption and transfer of water and food materials, photosynthesis, respiration, growth, movement, reproduction. Special attention is given to the relation of physiological principles to agriculture.

Sophomore Year, Second Term; 2 theoretical and 4 practical periods per week.

63. Comparative Morphology and Classification. A comparative study of the structure and life history of the principal types of plants from the lowest to the highest. The exercises consist principally of lectures and microscopic studies in the laboratory.

Text-book: Bergen and Davis' "Principles of Botany," Part II. The outline of classification of Engler's Syllabus is followed in general.

Junior Year, Third Term; 2 theoretical and 4 practical periods per week; given also in abridged form in First Term.

64. Economic Plants. Lectures on the names, classification, nativity and uses of the useful and detrimental plants of the world, with field and laboratory studies of the common cultivated plants; given with a view of enabling the student of horticulture or agriculture to know the scientific names and relationship of the plants with which he comes in contact in his chosen work.

Reference works: Bailey's Gray's "Field, Forest and Garden Botany," Bailey's "Enclycopedia of Horticulture," etc.

Junior Year, Third Term; 2 theoretical and 4 practical periods per week.

65. Vegetable Pathology. The causes, symptoms and means of control of plant diseases are studied by means of lectures, microscopic work in the laboratory and experiments in infection and treatment in field and greenhouse.

In addition to the lectures numerous reference books are used.

Senior Year, Second Term; 2 theoretical and 4 practical periods per week.

66. Research. Students electing Botany as a major in the Senior Year devote one term to a completion of an original study

of some botanical subject upon which they prepare their graduation thesis.

Senior Year, Third Term; not less than the equivalent of 7 theoretical periods per week.

67. ELECTIVE courses for students of the Biological Course, or for post-graduate students, are offered in Methods in Plant Pathology, Botanical Microchemistry, Histology of Trees, Microscopy of Foods and Drugs, Weeds and Poisonous Plants, Seed Testing, Taxonomy or advanced work in any of the undergraduate courses before mentioned.

Students in Botany in the Biological Course, pursue their elective courses in the Senior Year for not less than the equivalent of 7 theoretical periods per week, and those pursuing Entomology as a major devote the equivalent of 3 theoretical periods per week throughout the year to Botany.

DEPARTMENT OF CHEMISTRY.

DR. H. B. MCDONNELL, PROFESSOR AND STATE CHEMIST.

I. V. STONE, INSTRUCTOR.

FRANK COLE, R. B. DEEMER, ASSISTANTS IN STATE WORK.

This department is charged with two distinct classes of work. (1) The State fertilizer and food inspection, and (2) the instruction of students. The State work necessitates the publication of the "Quarterly" bulletin, which is usually made up of the results of the analyses of fertilizers or feeding stuffs, and is sent free of charge to all Maryland farmers who apply. Students do no part of the State work, the assistants being invariably college graduates. However, this work serves as a valuable object lesson to the advanced students.

The Chemical Laboratory Building is devoted entirely to chemistry. It is new and, not including basement, is two stories high. On the first floor are the laboratories for the State fertilizer and food control work, office, lecture room and balance room. On the second floor are three laboratories for the use of students—one for each class—a student's balance room with first-class chemical and assay balances and a supply room. The assay furnaces are in the basement. Each student is provided with a working desk, lockers, reagents and apparatus. Additional apparatus and materials are provided from the supply room, as needed.

The department is provided with a small, but well-selected, library of standard reference books on Chemistry, to which additions are made from time to time.

Instruction in Chemistry is begun with the Sophomore year, four hours per week being devoted to lectures and recitations, and three to four hours to practical work in the laboratory by the student, under the supervision of the instructor. In this way he comes in direct contact with the substances studied, having at hand ample facilities for learning their properties. Special attention is given to the elements and compounds of practical and economic importance, such as the air, water and soil, the elements entering into the composition of plants and animals, the useful metals, etc. The course in the Sophomore year is intended to give the student that practical and theoretical knowledge of elementary chemistry, which is essential in the education of every man, no matter what his vocation. It also serves as a foundation for advanced work in Chemistry, if such a course is chosen.

Advanced work in chemistry begins with the Junior year, if the course in chemistry is selected, and the larger part of the student's time is devoted to some branch of theoretical or pracical chemistry during the rest of his course, as outlined elsewhere.

The object of the full course in chemistry is to prepare the graduate for positions in agricultural colleges, experiment stations, the United States Department of Agriculture, or in vari-

ous industries that required the services of trained chemists. The demand for our graduates for such positions is far in excess of the supply.

COURSES OFFERED.

80. General Chemistry. Recitations and practical work in the laboratory, where the student performs the experiments under the direction of the instructors. Qualitative analysis is started in this course.

The text-book is Remsen's "Introduction to the Study of Chemistry."

Sophomore Year, Three Terms; 3 to 4 theoretical and 2 to 4 practical periods per week.

81. Elementary Organic Chemistry. A brief outline of the chemistry of the compounds of carbon. This course is preparatory to the more detailed study of Organic Chemistry, which is given later, and at the same time serves to round out the course in General Chemistry for those who pursue the subject no farther.

Text-book: Noyes' "Organic Chemistry."

Junior Year, First Term; 3 periods per week.

82. Qualitative Analysis. Text-book: Seller's "Qualitative Analysis."

Junior Year, First Term; 1 lecture and 12 practical periods per week.

83. Qualitative Analysis. For students taking Horticultural, Agricultural and General Science Courses.

Text-book: Seller's "Qualitative Analysis."

Junior Year, First Term; 1 lecture and 6 practical periods per week.

84. Inorganic Preparations. The preparation and purification of inorganic compounds, fractional crystallization, etc.

Junior Year, First Term; 4 practical periods per week.

85. THEORETICAL CHEMISTRY. A discussion of the fundamental laws and theories of modern Chemistry, with their application in problems.

Text-books: Tilden's "Elements of Chemical Philosophy," and Talbot and Blanchard's "Electrolytic Dissociation Theory."

Junior Year, First Term; 2 periods per week.

86. QUANTITATIVE ANALYSIS. Some of the simpler determinations, so selected as to illustrate the general principles of the subject, are given. Neatness and accuracy are insisted upon in the laboratory, and in the conference period the chemistry and mathematics of each determination are thoroughly discussed.

Text-book: Lincoln and Walton's "Quantitative Analysis."

Junior Year, Second Term; 1 conference and 12 practical periods per week.

87. QUANTITATIVE ANALYSIS. For students taking Agricultural and General Science Courses. A brief course illustrating some of the general principles in the quantitative study of Chemistry. In the latter part of the course the Agricultural men are given the option of the analysis of fertilizers, feeds, butter, milk, etc.

Text-book: Lincoln and Walton's "Quantitative Analysis."

Junior Year, Second and Third Terms; 1 conference and 4 practical periods per week. Senior Year, First Term; 4 practical periods per week.

88. MINERALOGY. This is a course in determinative mineralogy. The more important minerals are identified by their more characteristic physical and chemical properties, the blowpipe being an important aid.

Text-book: Brush and Penfield's "Determinative Mineralogy and Blowpipe Analysis."

Junior Year, Second Term; 1 lecture and 4 practical periods per week.

89. ORGANIC CHEMISTRY. Recitations and lectures.

Text-book: Remsen's "Organic Chemistry."

Junior Year, Second and Third Terms; Senior Year, First Term; 3 periods per week.

90. ORGANIC PREPARATIONS. The preparation in the laboratory of some of the typical organic compounds, determination of boiling and melting points, lowering of freezing points by substances in solution, determination of vapor densities, and combustion methods for determination of carbon, hydrogen and nitrogen.

Reference book: Levy's "Organische Praeparate," Remsen's "Organic Chemistry," and Gattermann's "Practical Methods of Organic Chemistry," translated by Schober.

Senior Year, Second Term; 16 practical periods per week.

91. VOLUMETRIC ANALYSIS AND ASSAYING. This course is mostly acidimetry and alkalimetry, the determination of iron, chlorine, silver, etc., by volumetric methods and the fire assay of gold, silver and lead ores.

Reference books: Sutton's "Volumetric Analysis," and Brown's "Manual of Assaying."

Junior Year, Third Term; 2 lectures and 16 practical periods per week.

92. AGRICULTURAL CHEMISTRY. The chemistry of soils, fertilizers, plant life, animal life, etc.

Text-book: Engle's "Manual of Agricultural Chemistry."

Senior Year, First Term; 3 periods per week.

93. AGRICULTURAL CHEMICAL ANALYSIS. This is a thorough course in the analysis of fertilizers and fertilizing materials, feeding stuffs, butter, milk, sugar, starch, etc.

Text-book: "Methods of Analysis of the Association of Official Agricultural Chemists."

Senior Year, First Term; 20 practical periods per week.

94. INDUSTRIAL, PHYSICAL AND ELECTROLYTIC CHEMISTRY. this course is intended to broaden the foundation of the student in Chemistry, and the parts of the subjects covered will be selected with special reference to the bearing on Agricultural Chemistry.

Text-books: Blount and Bloxam's "Chemistry of Manufacturing Processes," Jones' "Physical Chemistry," and Smith's "Electrolytic Chemical Analysis."

Senior Year, Second and Third Terms; 6 periods of lectures and recitations, and 4 periods of laboratory work per week Second Term, and 5 periods, lectures and recitations during the Third Term.

95. RESEARCH. This will occupy nearly all the student's time in the laboratory. The results will be embodied in the graduating thesis.

Senior Year, Third Term; 20 periods per week.

The hours mentioned for practical work in the laboratory are intended to be a minimum. The best students put in considerably more time than this, the laboratories being open to advanced students till 5 o'clock in the evenings, and on Saturdays till noon. Energetic students are glad to avail themselves of these opportunities.

DEPARTMENT OF CIVIL ENGINEERING, ELECTRICAL ENGINEERING AND PHYSICS.

THOMAS HARDY TALIAFERRO, PROFESSOR.

MYRON CREESE, ASSISTANT PROFESSOR.

CIVIL ENGINEERING

The subjects pertaining to Civil Engineering are arranged with the object of emphasizing the fundamental principles through lectures and recitations in the class-room, supplemented by practical exercises in the field, drafting room, and laboratory.

Self-reliance being an essential factor in the success of an engineer, the student is encouraged in every way to develop this habit.

EQUIPMENT. In addition to minor engineering instruments, etc., the Department is at present equipped with two surveyor's compasses, three transits, and three levels.

COURSES OFFERED. The subjects outlined, with one exception, constitute a portion of the curriculum of students in the Civil Engineering Course.

100. ELEMENTARY MECHANICS. The elements of statics dealing with the composition and resolution of forces, moments, couples, simple machines, and the laws of friction. The elements of dynamics, dealing with velocity, acceleration, laws of motion, work, energy, and applications to simple problems.

Freshman Year, Second and Third Terms; 2 periods per week.
Sophomore Year, Second Term; 3 periods per week.

101. ARCHITECTURAL DRAWING. The drawing of floor plans and elevations. Ornamental lettering and title work. Round writing. Perspective drawing. Architectural details.

Sophomore Year, Second Term; 4 practical periods per week.

102. ELEMENTARY SURVEYING. This course is intended to meet the needs of students in the Agricultural and Horticultural courses. It includes the use of the compass, transit, and level, one or more methods of land surveying, the plotting and computing of areas, leveling, and topographical surveying.

Texts: Robbin's "Elementary Treatise on Surveying," and Notes.

Freshman and Sophomore Years, Third Term; 2 periods per week of classroom work and 4 periods per week of field practice.

103. SURVEYING. This course includes the use and adjust-

ment of engineering intruments, the methods of land surveying, the plotting and computing of areas, dividing of land, the theory of the stadia, true meridian lines, leveling, topographical surveying, railroad curves and cross sectioning.

Texts: Raymond's "Plane Surveying," and Pence & Ketchum's "Field Manual."

Junior Year, three terms; 3 periods per week of class-room work, and 5 periods per week of field practice, First Term; 3 periods per week of class-room work, and 2 periods per week of field practice, Second Term; 2 periods per week of class-room work, and 4 periods per week of field practice, Third Term.

104. Topographical Drawing. Practice in free-hand lettering, maps, profiles, topography, etc.

Junior Year, three terms; 6 periods per week, First and Second Terms; 4 periods per week, Third Term.

105. Railway Engineering. Preliminary and location surveys, cross sectioning, calculation of quantities, etc.

Text: Searles' "Field Engineering."

Junior Year, Third Term, and Senior Year, First Term; 2 periods per week.

106. Bridge and Structural Designing. The complete design and detailing of a steel roof truss and a plate girder. The detailing from standard commercial drawing sheets of floor beams, girders and columns. The complete design of a bridge truss of either the Warren or Pratt type. The stresses are determined by both analytical and graphic methods.

Texts: Merriman and Jacoby's "Stresses," Cooper's "Bridge Specifications," Cambria hand-book, Thompson's "Bridge and Structural Design," Merriman and Jacoby's "Bridge Design."

Senior Year, three terms; 6 periods per week.

107. Strength of Materials. Treating of the elasticity and resistance of materials of construction, and the mechanics of beams, columns, and shafts.

Text: Merriman's "Mechanics of Materials."
Senior Year, First Term; 4 periods per week.

108. HYDRAULICS. Principles of hydraulics, flow through pipes, water supply, etc.
Text: Merriman's "Hydraulics."
Senior Year, Second Term; 5 periods per week.

109. HIGHWAY ENGINEERING. Location, construction, and maintenance of roads.
Texts: Spalding's "Roads and Pavements," and the reports of the Highway Division of the Maryland Geological Survey.
Senior Year, Third Term; 3 periods per week.

110. ESTIMATES OF COST. A lecture course on the methods of estimating cost.
Senior Year, Third Term; 1 period per week.

111. FIELD ENGINEERING. The necessity for practical work on the part of those desiring to enter upon engineering as a profession is obvious. To meet this condition a number of hours have been scheduled for field work in practical problems relating to engineering. The scheduled hours constitute a minimum, the student being encouraged to give as much more of his time as is possible to problems of this character.
Senior Year, three terms; 8 periods per week, First and Second Terms; 12 periods per week, Third Term.

ELECTRICAL ENGINEERING

For the session of 1909-1910, the Electrical Engineering course is offered to the members of the Freshman, Sophomore and Junior Classes. The work of the course is so arranged as to give the student a thorough understanding of the fundamental principles of the various branches of electrical engineering, and at the same time to teach him to apply these principles to the practical problems with which the engineer has to deal. This purpose is carried out by means of lectures and recitations

in the class-room, supplemented by practical work in the laboratories and drawing room.

EQUIPMENT. At the beginning of the session of 1909-1910, the Electrical Engineering Laboratories will be located in the basement and first floor of the east wing of the new Engineering building. The rooms on the first floor will be used for lectures, recitations, and experimental demonstrations by the instructor; and the basement will contain the dynamo room and the electrical engineering testing room.

The electrical engineering testing room will be fitted up with such appliances as are used to the best advantage in engineering practice. Special effort has been made to purchase only the best instruments, as the use of poorer grades influences the student unfavorably. With poor instruments he cannot be taught to do satisfactory work, and he becomes careless in the handling of them.

Among other things the following apparatus has already been purchased for the testing laboratory:

A Queen & Co. standard photometer, for measuring the distribution of light from incandescent lamps, with all the necessary instruments and adjustments, including a Lummer-Brodhun photometer screen and carriage, and a universal rotating socket for the test lamp; a number of direct current and alternating current voltmeters ranging from 0.0001 to 150 volts; ammeters ranging from 0.0004 to 50 amperes; a Siemens' electrodynamometer of 60 amperes capacity; and an integrating wattmeter. The above instruments are made by Weston and Queen & Co. In addition there are D'Arsonval galvanometers, both ballistic and light movement, furnished with lamp scales; standard resistance boxes and bridges, including a very accurate decade resistance box; double and single contact keys and commutating keys.

The arc lamps which have been purchased, include both direct current and alternating current multiple arcs and a luminous arc lamp with an inverted concentric diffuser.

The laboratory will be so wired that connection may be made

readily with any part of the College lighting plant and with any of the apparatus in the dynamo room.

The dynamo room will contain the following:—A 10 kilowatt General Electric rotary converter of the latest type with speed limit and end play devices, to be used as a synchronous motor and as an alternating current generator for testing purposes; a 5 horse-power General Electric commutating pole motor with controller for varying speeds; and a Westinghouse 5 horse-power compound direct current motor. These motors are to be used both as motors and generators.

A blue Vermont marble panel will be used to mount the necessary circuit-breaker, rheostats, switches, etc., to control the rotary converter as well as the various circuits in the dynamo room and testing laboratory. Wire and water rheostats will be arranged for load and regulation. Incandescent lamp-boards will be so arranged that they may receive, at the proper voltage, from 0.04 to 20 amperes current. In addition to the special electrical engineering equipment, the College lighting plant will be used for illustrative and experimental purposes. This plant contains, together with other apparatus useful in teaching electrical engineering, two Bullock generators of 40 kilowatts total capacity, and a switch-board equipped with a number of Weston ammeters, voltmeters, and circuit-breakers, and various types of rheostats.

An 8-inch Waltham bench lathe, with all the necessary attachments, is to be installed in the dynamo room for the use of students in practical thesis work, and for making small articles, such as binding posts, connectors, etc., for use in the laboratories.

Such other apparatus as is necessary for carrying on the work with alternating and direct current, will be purchased as the funds permit.

COURSES OFFERED.

The subjects outlined constitute the work in Electrical Engineering through the Junior Year.

120. Elementary Electricity. This subject includes: Static electricity, dealing with the phenomena of electricity in its potential form, and the conception of electric potential, quantity, capacity, etc., kinetic electricity, including the study of the fundamental laws and units, as Ohm's Law, Joules' Law, units of current, electromotive force, resistance, etc.; theory of magnetism, with its phenomena and forces; and electro-magnetism, which is the foundation for dynamo electric machine design and construction.

Text: Nichols and Franklin's "Electricity and Magnetism."

Sophomore Year, Second and Third Terms; 2 periods per week.

121. Electro-Magnetism and the Construction of Dynamos. Beginning with the Junior Year and extending throughout the course, the principles involved in the construction and operation of both direct and alternating current dynamos and motors are taught. In teaching this subject, especial care is exercised that the mathematical and graphical developments shall be concise and logical. The direct current machine is first examined, and this results in a discussion of the different forms of armature, their windings, cores, commutators, etc.; the various fields; the methods of arranging the windings for different purposes; the shape and material of the magnetic circuits; the bearings, shafts, and bed-plates, and the methods of insulation; a full description of the materials of construction; the selection of types suited to the performance of specific duties; and the proper method for installing and operating. The characteristic curves and efficiencies of the different types are also illustrated at some length.

Text: Franklin and Esty's "Dynamo Electric Machinery."

Junior Year, three terms; 3 periods per week.

122. Electrical Engineering Laboratory. The study of direct current instruments. The measurements of resistance, current, and electromotive force. The use of the Wheatstone bridge, and galvanometers. Loop and capacity tests of cables. Calibration of instruments. Study of direct current machines.

Testing of arc lamps. Photometry. The operation of machinery and determination of the characteristic curves and efficiencies of machines.

Junior Year, three terms; 4 periods per week.

123. Electric Machine Design. Practical calculation of dynamos, including detail calculations of field cores, armature windings, frame, commutator, armature core, and collecting devices.

Junior Year, Second Term; 2 periods per week, and Third Term; 4 periods per week.

PHYSICS

The physical lecture room and laboratory are located in the new engineering building, in rooms excellently adapted to the purpose. The department is well supplied with apparatus for lecture room demonstrations and for students' individual laboratory work, and new pieces of apparatus are added to the equipment each year.

140. Elementary Physics. The course consists of lectures, recitations and experimental demonstrations by the instructor on the mechanics of solids, liquids and gases. The student is required to work a number of problems, and his attention is directed to the practical application of the principles studied.

Text: Carhart & Chute's "High School Physics."

Freshman year, Second and Third Terms; 2 to 3 periods per week. Sophomore Year, First Term; 4 periods per week.

141. Physics. The course begins with a review of mechanics, after which heat, electricity and magnetism, sound and light are taken up successively by lectures, recitations, problems, and demonstrations. A knowledge of the elements of plane trigonometry is required for entrance. The laboratory work consists of a series of experiments, mainly quantitative, designed to illustrate and verify the laws and principles considered in the classroom, and to develop in the student skill in manipulation and accuracy in making precise measurements.

Texts: Carhart's "University Physics," and Ames and Bliss' "Manual of Experiments in Physics."

Junior Year, three terms; 4 periods of class-room work and 4 periods of laboratory work per week.

142. PHYSICS. Advanced work will be provided for students who have completed the preceding courses, and who wish to continue the study of physics.

DEPARTMENT OF ENGLISH AND CIVICS.

F. B. BOMBERGER, PROFESSOR.

CHARLES S. RICHARDSON, ASSISTANT PROFESSOR.

This department, as its name implies, covers the work of two distinct courses of instruction. It seeks to prepare the student by systematic training in the history, structure and use of the English language, for the highest development of his mental powers and for the complex duties and relations of life; and, further, to fit him for the active and intelligent exercise of his rights and duties as a man and citizen.

The course in English, of a necessity, lies at the base of all other courses of instruction. Clear and comprehensive knowledge of his mother tongue is absolutely necessary to the student in pursuing any line of college work. Nor is this all; for aside from the practical value of the English instruction as an aid to other branches of study, and as a preparation for business and profession, it is to his training in this department, in connection with his study of history and the classics and modern languages, that the student must look for the acquiring of that general culture that has always been the distinguishing mark of the liberally educated man. The English work, which is common to all courses, consists of the study of the structure of the English language, English and American literature, theoretical and practical rhetoric, logic, psychology, critical reading and analysis,

and constant exercise in expression, composition and theme writing.

The course in civics is especially designed to prepare young men for the active duties of citizenship. The first year is devoted to the study of general history, followed by the principles of civil government, constitutional history, political economy, with special reference to current, social and industrial problems, and, finally, lectures on the elements of business law.

ENGLISH COURSES

160. Language and Composition. English language, review of grammar, practical exercise in analysis, synthesis and etymology, composition and letter writing. Work in composition consists of the preparation of twelve themes upon assigned topics.

Texts used: Lockwood's "Lessons in English," Buehler's "Exercises in English," and Swinton's "Word Analysis."

Freshman Year, three terms; 5 periods per week.

161. American Literature. A study of the most important writers, with a view to giving the student an exact knowledge of their works.

Text used: Watkin's "American Literature."

Freshman Year, Third Term; 3 periods per week.

162. American Literature. Advanced study of selected works of American authors.

Sophomore Year, Third Term; 4 periods per week.

163. Rhetoric and Composition. Principles and practice of rhetoric and composition. Work in rhetoric consists of a study of the principles of diction, the sentence, the paragraph, the discourse, forms of prose, and the nature, form and structure of poetry.

Work in composition consists of twelve themes, illustrating special processes.

Text used: Brooks and Hubbard's "Composition-Rhetoric."

Sophomore Year, First and Second Terms; 3 periods per week.

164. English Literature. General study of the history and chief writers of English literature.

Text used: Stopford's Brooke's "English Literature."

Sophomore Year, Third Term; 3 periods per week.

165. Composition. Practice in English Composition. Special lectures. Work in composition consists of twelve themes discussing English classics studied in class, or subjects involved in the study of civics. Special attention is paid to the oration and short story during the Third Term.

Junior Year, three terms; 1 period per week.

166. English Literature. Advanced study of selected work of English authors.

Texts used: Pancoast's "English Literature," Halleck's "English."

Junior Year, First Term, 3 periods per week; Second Term, 2 periods per week.

167. Logic. Principles and practice of logic.

Text used: Jevon's Hill's "Logic."

Junior Year, Third Term; 3 periods per week.

168. English Classics. Critical study of English classics.

Senior Year, three terms; 4 periods per week.

169. Psychology. Principles of Psychology. Text-book and lectures.

Text used: Dewey's "Psychology."

Senior Year, First Term; 4 periods per week.

170. Composition. Advanced work in English Composition. Special lectures. Eight themes illustrating special processes.

Senior Year, three terms; 1 period per week.

HISTORY COURSES

180. GENERAL HISTORY. Outlines of general history.
Text used: Myers' "General History."
Freshman Year, First and Second Terms; 3 periods per week.

181. ENGLISH HISTORY. Study of the outlines of English history.
Text used: Montgomery's "English History."
Freshman Year, Third Term; 3 periods per week.

182. CURRENT TOPICS. Seminar discussion of current social, industrial, political and economic events.
Senior Year, Third Term; 2 periods per week.

CIVICS COURSES

200. CIVICS. Civil Government in the United States.
Text used: Hindsdale's "American Government."
Junior Year, Second and Third Terms; 3 periods per week.

201. POLITICAL ECONOMY. Principles of political economy and industrial development of the United States, economic science and current problems.
Text used: Walker's "Political Economy."
Senior Year, First and Second Terms; 3 and 4 periods per week.

202. BUSINESS LAW. Lectures on principles of law as used in every-day life and business.
Text used: Hamilton's "Practical Law."
Senior Year, Third Term; 4 periods per week.

DEPARTMENT OF ENTOMOLOGY AND ZOOLOGY.

T. B. SYMONS, PROFESSOR.

L. M. PEAIRS, INSTRUCTOR.

Instruction is given in this depatment with a view of giving the student, first, a general knowledge of invertebrate and vertebrate zoology, which is necessary as a foundation science for an agricultural education. Second, to fit the student in elementary and advanced entomology, both economic and systematic, in order that he may pursue this specialty after graduation. A course in economic entomology and zoology is given to provide those students who are specializing in any of the allied agricultural sciences with that information which is necessary to their ideal development.

Students wishing to take advanced work in invertebrate zoology are advised to select some subject in entomology. As the State and Experiment Station entomological work is conducted through this department, there are special advantages for students in applied entomology.

The department library is unusually complete, containing a majority of the principal entomological and many zoological publications, which are a great help in advanced work. The laboratory is supplied with a large collection of insects for the use of students, and is well equipped with microscopes and other apparatus necessary for practical work in entomology and zoology.

The Insectary of the State Horticultural Department and the Maryland Experiment Station, which is joined to the laboratory, affords facilities for special investigation to a limited number of advanced students.

COURSES OFFERED.

220. General Zoology. This course is offered to all students taking agriculture and allied sciences, and is introductory to all other work in this department. A study is made of the general form, characteristics, habits and classification of animals

from the lowest to the highest forms. It is designed to give the student that knowledge of animal life without which his education is not complete.

Freshman Year, Second Term; 3 theoretical and 4 practical periods per week.

221. INVERTEBRATE ZOOLOGY. In this course a thorough study will be made of the anatomy, development and classification of invertebrate animals. Special attention is given to those forms which are intimately associated with the development of allied sciences.

Sophomore Year, First Term; 2 theoretical and 4 practical; Second Term, 2 theoretical and 2 practical; Third Term, 2 theoretical and 2 practical periods per week.

222. VERTEBRATE ZOOLOGY. A thorough study of structure, development, classification and distribution of vertebrates is given in this course. Special attention is given to the study of of birds and other vertebrates of economic importance.

Junior Year, Second and Third Terms; 2 theoretical and 4 practical periods per week.

223. INSECT PESTS. This course will involve a study of the life history and methods of combatting the common injurious pests of field, orchard and garden crops. Lectures are given in the use of insecticides and other aspects of applied entomology.

Sophomore Year, Third Term; 2 theoretical and 4 practical periods.

224. ECONOMIC ENTOMOLOGY. A more extended study of the beneficial and injurious insects will be taken up in this course. Students in the Biological Course expecting to specialize in entomology will take up special classification of insects in practical work.

Junior Year, First Term; 2 theoretical and 4 practical periods per week.

225. Systematic Entomology. This course is designed for students of the Biological Course specializing in entomology. It will consist of a thorough study of the structure, life histories of insects and especially the common methods of insect classification.

Junior Year, Second Term; 2 theoretical and 4 practical periods per week.

226. Applied Entomology. (Spraying). Special attention is given in this course to principals in the application of insecticides. A study is made of the different insecticides and spraying apparatus on the market. In the practical work the opportunity will be given to observe and operate a large number of the spraying machines and apparatus offered for sale. A special spraying laboratory has been fitted for students taking this course.

Senior Year, Second Term.

227. Animal Parasites. This course is designed especially for students specializing in animal husbandry. The course will consist of a study of the life history, injury and remedial and preventive treatment for the more important internal and external parasites of domestic animals.

Senior Year, Third Term; 2 theoretical and 4 practical periods per week.

228. Entomology. (Advanced). Open only to students who have completed all previous courses in entomology. The course will include continued studies of the classification, morphology and ecology of insects.

Senior Year, three terms; 5 theoretical and 5 practical periods per week.

229. Entomology. Special independent research work on some definite entomological problem.

Senior Year, three terms; 5 practical periods per week.

DEPARTMENT OF HORTICULTURE.

C. P. CLOSE, PROFESSOR.

W. J. SOWDER, ASSOCIATE PROFESSOR.

The Horticultural Department offers two courses: (a) a four-year course leading to the degree B. S.; (b) a two-year course for proficiency in which a certificate is awarded.

The instruction in horticulture is specially based upon practical and economic fruit growing, truck farming and commerical floriculture. The orchards, gardens and new greenhouses of the Experiment Station offer to students a splendid opportunity to observe and study modern methods of fruit growing, vegetable growing and the forcing of greenhouse flowers and vegetables. The work in floriculture is supplemented by trips to modern establishments of successful greenhouse men in Baltimore, Washington and vicinity. Similar trips to supplement the work in landscape gardening and truck and fruit growing, are made from time to time. These trips are a portion of the regular work, and are often made on Saturday. Usually the expenses are paid by the College.

COURSES OFFERED.

240. PLANT PROPAGATION. This is a detailed study of the different methods of propagating plants. Instruction is given by practical exercises in the laboratory and in the greenhouse, and includes work in seedage, cuttage, graftage and layerage. Illustrated notes are required.

Text-book: "The Nursery Book," Bailey.

Freshman Year, Second Term; 2 practical periods per week.

Sophomore Year, First Term; 6 practical periods per week.

241. OLERICULTURE. This course embraces the principles of vegetable growing, including the culture, economic value, and botanic relations of garden vegetables. Practical work and

demonstrations are given in trucking crops, hot beds and cold frames, and in individual garden plats.

Text: "Vegetable Gardening," Green.

Sophomore Year, Third Term; 2 theoretical and 4 practical periods per week.

242. Fruit Growing. Commercial and amateur orchards and their management are discussed in this course. The location, planting, cultivation and general management, with special reference to Maryland conditions are considered. Lectures are accompanied by practical exercises.

Texts: "The Nursery Book," Bailey, and "The Principles of Fruit Growing," Bailey.

Sophomore Year, Second Term; 3 theoretical and 2 practical periods per week.

243. Small Fruits. The course is given by lectures, demonstrations, and practice. A comprehensive discussion of propagation, cultivation, and handling of strawberries and bush fruits is offered, both for home use and for market.

Text: "Bush Fruits," Card.

Senior Year, Third Term; 2 theoretical and 2 practical periods per week.

244. Systematic Pomology. This course embraces the study of the evolution and relationship of the economic fruits; it includes descriptions of fruits and the identification of the more common varieties of Maryland. Lectures and laboratory practice.

Senior Year, First and Third Terms; 2 theoretical and 2 practical periods per week.

245. Harvesting, Storing, and Marketing of Fruits and Vegetables. Lectures with practice are given in gathering, packing, storing, and marketing of common fruits and vegetables. Special stress is given the market problem and the various shipping associations.

Senior Year, Third Term; 2 periods per week.

246. GREENHOUSE CONSTRUCTION. This is a study of the materials used for greenhouses, heating systems, etc. The course includes the various types of greenhouse structures and their adaptation to different purposes. Lectures and practice.

Senior Year, Second Term; 1 theoretical and 3 practical periods per week.

247. FLORICULTURE. (a). Lectures and greenhouse practice. This course is devoted to growing and handling of greenhouse crops from the commercial point of view.

Junior Year, Second Term; 3 theoretical and 2 practical periods per week.

248. FLORICULTURE. (b). Lectures, laboratory, and plat work. The principles of growing foliage and flowering plants for decorative purposes are discussed. Demonstration and practice includes hanging baskets, window boxes, annuals, perennials, and shrubbery.

Junior Year, Third Term; 3 theoretical and 2 practical periods per week.

249. PLANT BREEDING. This is a general course in the science and art of plant breeding. The discussion of various methods of breeding and improvement is accompanied by practice in crossing in the College greenhouse and in the orchard.

Senior Year, Second and Third Terms; 2 periods per week.

250. LANDSCAPE GARDENING. Lectures, designing, and practical work. The course includes a detailed study of the relation of houses and grounds; it treats of the home yard, the school grounds, public parks, and roadways. It embraces a discussion of the technique of making lawns, walks and drives, planting annuals and perennials, and the planting of trees and shrubs.

Senior Year, First and Second Terms; 4 periods per week.

251. CITRUS AND SUB-TROPICAL FRUITS. This is a comprehensive course in citrus and sub-tropical fruits of general im-

portance. It is a broad survey of the whole field, including propagation, cultivation, management and uses.

Senior Year, Second Term; 2 theoretical periods per week.

252. NUT CULTURE. Lectures and practice. Nut growing in its economic relations is discussed. The course includes a general view of the whole subject of nut culture; it includes the propagation, orchard management, and marketing of the leading American nuts.

Senior Year, Third Term; 2 theoretical and 2 practical periods per week.

253. RESEARCH WORK AND THESIS. This work is given to the student to test and develop his powers of observation and initiation. The subject will be arranged with each student individually, and the results will be written up for a thesis, which is required of all candidates for the B. S. degree.

Junior Year, Third Term; 2 periods per week; Senior Year, three terms; 8 periods per week.

254. POST-GRADUATE WORK. An opportunity for advanced work is given to candidates who have the B. S. degree.

DEPARTMENT OF LANGUAGES.

THOMAS H. SPENCE, PROFESSOR.

The Department of Languages embraces the study of three branches: Latin, French and German. All students are required to take the courses in German. Students may elect to take Latin in the Freshman year in place of History.

The course of study in Latin is given with two ends in view—first, to train the mind into accurate and close methods of reasoning; second, the give the student a more thorough and comprehensive knowledge of his own language than he could other-

wise acquire. Especial attention is paid to Latin forms and terminations and to the derivation of English words from Latin roots.

So large a proportion of modern scientific literature is in German and French that a reading knowledge of these languages has become almost essential to the student pursuing advanced courses in the various spheres of scientific research. Instruction in these branches is given, therefore, to enable the student to translate intelligently the works of French and German masters in the domain of science, for, frequently there are no English versions of their works. As the student becomes more familiar with foreign scientific terms and construction, he is required to translate treatises bearing upon the special line of work which he may be pursuing. The study of French is offered as an option in the Senior Year.

LATIN COURSES

260. GRAMMAR AND COMPOSITION. For students of the Freshman class who elect Latin in place of History.

The aim of this course is to give the student a familiarity with Latin forms and terminations, and to enable him to read simple Latin prose.

Text-books: Gildersleeve's "New Latin Primer," Collier and Daniel's "First Year Latin," or Bingham's "Latin Grammar."

Freshman Year, three terms; 3 periods per week.

GERMAN COURSES

261. GRAMMAR AND CONVERSATION. Text-book: Otis' "Elementary German."

Sophomore Year, Third Term; 5 theoretical and 1 practical period per week.

262. TRANSLATION. Text-books selected from the following: Hauff's "Das Kalte Herz," Schillers' "Der Neffe als Onkel," Hillern's "Hocher als die Kirche," Grandgent's "Ali Baba and the Forty Thieves," Sybel's "Die Erhebung Europas," Walther's "Algemeine Meereskunde," Northrup's "Geschichte der Neuen Welt," Brant and Day's "Scientific German," and others.

Junior Year, three terms; 3 periods per week.

263. TRANSLATION OF SCIENTIFIC GERMAN. Selected readings from various texts and periodicals.

Senior Year, three terms; 4 periods per week.

FRENCH COURSES

244. GRAMMAR AND COMPOSITION. Text-book: Chardenal's "Complete French Course."

Sophomore Year, First Term; 3 periods per week.

245. TRANSLATION. Text-books: Super's "French Reader," Rougemont's "La France," Fenelon's "Telemaque," Herdler's "Scientific French Reader," and French scientific periodicals.

Sophomore Year, Second and Third Terms; 4 periods per week. Alternative with German in Senior Year, Second Term; 5 periods per week; Third Term, 4 periods per week.

DEPARTMENT OF MATHEMATICS.

R. W. SILVESTER, PROFESSOR.

HENRY T. HARRISON, ASSISTANT PROFESSOR.

Mathematics is the basis upon which scientific information rests. A knowledge of the study is necessary, as much from the utilitarian point of view as from the mental training its acquisition gives. Its importance as a factor in our College course takes its rise from the former consideration. All instruction in this work is with a view to the equipping of students for the more practical work soon to follow.

The class work in Mathematics in the several courses consists of arithmetic, bookkeeping, algebra, geometry (plane and solid), trigonometry, descriptive geometry, differential and integral calculus, in their application to mechanics, engineering, physics and surveying.

In the applied mathematics, bookkeeping is taught every student. No matter what vocation a man intends to follow, a knowledge of business forms and methods of systematic accounts is a requisite to success. To be able to use an ordinary compass or transit, for the purpose of laying out, dividing and calculating the area of land, or of running outlines and leveling for the purpose of drainage, is a necessary accomplishment for every intelligent farmer.

COURSES OFFERED.

280. ALGEBRA. Text-book: Wentworth's "Complete Algebra."

Freshman Year, First and Second Terms; 3 periods per week, First Term; 2 periods per week, Second Term.

281. PLANE GEOMETRY. Text-book: Wentworth's "Plane Geometry."

Freshman Year, First Term; 5 periods per week; Second Term, 2 periods per week.

282. TRIGONOMETRY. Text-book: Wentworth's "Plane Trigonometry."

Freshman Year, Second Term; 4 periods per week; Third Term, 3 periods per week.

283. SOLID GEOMETRY. Text-book: Wentworth's "Solid Geometry."

Freshman Year, Third Term; 5 periods per week.

284. ANALYTICAL GEOMETRY. Text-book: Wentworth's "Analytics."

Junior Year, First Term; 5 periods per week.

285. CALCULUS. Text-book: Osborne's.

Junior Year, Second and Third Terms; 5 periods per week.

DEPARTMENT OF MECHANICAL ENGINEERING.

HARRY GWINNER, PROFESSOR.

HOWARD L. CRISP, ASSISTANT PROFESSOR.

FREDERICK F. MASON, INSTRUCTOR.

This department offers a four-year course in Mechanical Engineering leading to the degree of B. S. in Mechanical Engineering. It prepares young men to design and construct machinery, to superintend engineering establishments, to become superintendents of construction and to teach mechanical engineering and manual training.

The record of its graduates shows that the course is equipping such for immediate usefulness in the technical field.

Instruction is given by means of lectures and recitations, accompanied by a large amount of practice in the drafting rooms, shops and experimental laboratory.

The program of the department is arranged to embody the two-fold belief that a thorough fundamental training is best secured by a study of the practical application of the principles involved, as well as of the principles.

EQUIPMENT. The Mechanical Engineering Laboratories are situated in the Engineering Building; which contains the wood-working and machine shops, drafting and lecture rooms. The foundry and blacksmith shops as well the power plant, are in annex buildings.

The wood-working shop contains accommodations for 14 students in bench work and wood turning. The power machinery in this shop is a band and circular saw, five 12-inch turning lathes, a grindstone and wood trimmer.

In the forge shops are sixteen power forges, two hand forges and a pressure fan and exhauster for keeping the shop free of smoke. There is a full assortment of smiths tools for each forge.

The foundry is equipped with an iron cupola, which melts 1,200 pounds of iron per hour, a brass furnace, one core-oven, and the necessary flasks and tools.

The machine shop equipment consists of one 10-inch speed lathe, one 22-inch engine-lathe with compound rest, one 12-inch combined foot and power lathe, two 14-inch engine-lathes, one 24-inch drill press, one No. 4 emery tool grinder, and an assortment of vises, taps, dies, pipe-tools and measuring instruments.

The machinery of the pattern and machine shops is driven by a 9 by 14-inch automatic cut off, high speed engine, built by members of the Junior and Senior Mechanical Engineering classes, after the standard design of the Atlas engine. An 8 by 12-inch engine drives the machinery of the blacksmith shop and foundry. It was presented to the College by the City of Baltimore, and secured through the efforts of Rear-Admiral John D. Ford, United States Navy, retired.

The drafting rooms are well-equipped for practical work, being well-lighted and of ample size.

COURSES OFFERED.

300. FREEHAND DRAWING. Straight and curved lines, lettering, leaves, plants and ornaments.

Freshman Year, First Term; 6 periods per week.

301. MECHANICAL DRAWING. Practice in plain lettering, use of instruments, projection and simple working drawings, the plates upon completion being enclosed in covers properly titled by the students.

Text-book: Rouillion's "Mechanical Drawing."

Freshman Year, Second and Third Terms; 6 periods per week.

302. TECHNICAL INSTRUCTION. Explanation of the reading of mechanical drawings; the proper cutting angles, care and adjustment of carpenter tools; relative strength of wood joints; wood, its shrinking and warping, and how to correct and prevent. Drill in problems in arithmetic, algebra and drawing by notes and lectures.

Text-book: Goss' "Bench Work in Wood."

Freshman Year, First Term; 2 periods per week.

303. Wood Work. During the first term is taught the use and care of bench tools, exercise in sawing, mortising, tenoning and laying out work from blue prints. The second term is devoted to projects involving construction, decoration and wood turning. During the third term the principles and processes of pattern making are taught, together with enough foundry work to demonstrate the uses of pattern making.

Freshman Year, three terms; 6 periods per week.

304. Mechanical Drawing. Detailing of machinery and drawing to scale from blue prints. Tracing and blue printing, and representation of flat and round surfaces by ink shading.

Text-book: Rouillion's "Mechanical Drawing."

Sophomore Year, First Term; 6 periods per week.

305. Elementary Applied Mechanics. Transmission of power by belts and pulleys, the results of forces acting upon bodies, bolts, nuts and screws, inclined plane, laws of friction, strength of shafting and bending movements of beams.

Text-book: Jamieson's "Applied Mechanics."

Sophomore Year, First Term; 4 periods per week.

306. Blacksmithing. The making of the fire, and how to keep it in order. The operations of drawing-out, upsetting and bending of iron and steel, including the calculations of stock for bent shapes. Welding. Construction of steel tools for use in the machine shop, including tool dressing and tempering. Annealing.

Sophomore Year, First and Second Terms; 4 periods per week.

307. Foundry Work. Moulding in iron and brass. Core making. The cupola and its management. Lectures on the selections of irons by fracture, fuels, melting and mixing of metals.

Sophomore Year, Third Term; 8 periods per week.

308. Descriptive Geometry. Its relation to mechanical drawing and the solution of such problems relating to magnitudes in space as bear directly upon those which present themselves to civil, mechanical and electrical engineers.

Text-book: Faunce's "Descriptive Geometry."

Sophomore Year, Second and Third Terms; 7 periods per week.

309. Elementary Machine Design. Freehand sketching of the details of machinery and making working drawings of same. Calculations and drawings of a simple type of steam engine. Notes and lectures.

Junior Year, three terms; 6 periods per week.

310. Machine Work. Elementary principles of vise and machine work, which includes turning, planing, drilling, screw cutting and filing. This is preceded by study of the different machines used in the machine shops.

Junior Year, three terms; 6 periods per week.

311. Steam Engines and Boilers. The principles of steam and the steam engine. The slide valve and valve diagrams. The indicator and its diagram. Steam boilers, the various types and their advantages. Each student taking this is required to spend certain hours in the power plant actually operating the engines and boilers.

Text-book: Jamieson's "Steam and Steam Engines."

Junior Year, First Term; 4 theoretical periods per week.

312. Power Plants and Thermo Dynamics. The theoretical study of the steam engine, gas engine and other heat motors involving the laws of thermodynamics. Lectures on equipment of power plants.

Text-book: Reeve's or Peabody's "Thermodynamics."

Senior Year, Second Term; 3 theoretical periods per week.

313. Advanced Machine Design. Review of solid analytical geometry and integral calculus. This is followed by the actual designing of machines. As each portion is reached in process of designing, an analytical investigation of its form and strength is made with the accompanying development of the rational and

empirical formulae involved. During 1908-'09, there were designed a 3-ton winch, the frame of a 1-inch punching machine, and a structural steel plate girder for a 30-ton crane.

Text-books: Kent's "Engineer's Hand Book," "Cambria Hand book," Church's "Mechanics of Engineering."

Senior Year, three terms; 2 theoretical and 4 practical periods per week.

314. GRAPHIC STATICS. The theory and practice of the method of determining stresses in cranes, roof trusses and bridges, and stress on beams and girders due to traveling loads.

Text-book: Merriman and Jacoby's "Graphic Statics."

Senior Year, First Term; 4 periods per week.

315. MACHINE SHOP WORK. Advanced machine work; the laying out, assembling and construction of some piece of machinery such as an engine-lathe or dynamo.

Senior Year, three terms; 8 periods per week.

316. EXPERIMENTAL ENGINEERING. Determining the amount of moisture in steam, the efficiency of the injector, the transit and its uses, indicator practice and the use of the planimeter, slide valve setting, the slide rule and micrometer, the analysis of boiler feed water, and flue gases, the determination of proper lubricants.

Senior Year, Third Term; 8 periods per week.

THE MILITARY DEPARTMENT.

CAPTAIN EDGAR T. CONLEY, 15th. INFANTRY, U. S. A., PROFESSOR.

This department is under the direction of a regular army officer detailed by the War Department, and it is in a decidedly flourishing condition. The military element enters largely into the general discipline of the College, and is an important factor

in the moral and physical development of the student body. The importance of regular daily exercise for boys during the formative period, cannot be overestimated, and nothing else conduces so perfectly to effect this as military drill under competent instructors.

The military drill produces an erect and graceful carriage, and a manly and self-respecting bearing towards others, while the military discipline inculcates habits of regularity, neatness of person and quarters, promptness, and self-control.

OBJECT OF MILITARY INSTRUCTION

In return for certain money given the institution by the U. S. Government, the College authorities agree that all cadets shall receive such military training as may be given them by the representative of the government, the Professor of Military Science and Tactics.

The object of this training is to perfect the military education of each graduate to such extent as will make him capable of performing the duties of an officer of the regular army, U. S. Volunteers, or militia, especially in time of war.

The regular army of the United States is so small that the Government realizes it is necessary to have a body of citizens whose military education fits them for positions as officers in time of war, and it is with the idea of forming such a reserve of officers, that the Government is doing so much to improve the military departments of all military institutions of the United States.

ORGANIZATION

The corps of cadets is organized as a battalion of three companies, staff and band, the drill and administration of which conform as far as possible to that of the regular army.

All students, unless physically disabled, are required to drill, and upon entering are enrolled in one of the companies of the battalion.

INSTRUCTION

The instruction in this department is both practical and theo-

retical. The practical instruction includes School of the Soldier, squad, company and battalion drill, close and extended order, ceremonies of guard-mounting, review and inspection, dress parade, and escort to the colors, advance and rear guard work, patrolling and scouting, marches and target practice.

The theoretical instruction is given to all members of the Senior Class, and the non-commissioned officers of the Junior Class, and consists of instruction in Infantry Drill Regulations, guard duty, firing regulations for small arms, and field service regulations, supplemented by lectures on tactical subjects, army regulations, field engineering, first aid to the injured, company books, papers, messing, cooking, and tactics.

EQUIPMENT. The battalion of cadets is equipped with the U. S. magazine rifle, 30 cal., known as the Krag-Jorgensen, with side arms and cartridge boxes. The cadet officers and non-commissioned staff officers are equipped with the regulation West Point cadet sword and sash. The Government has also supplied the battalion with the new regulation sub-calibre target rifle for gallery practice, and has been very liberal in the allowance of ammunition, both ball and blank, for gallery practice and field exercises. Students are held strictly accountable for arms and equipment issued them.

UNIFORM

The uniform worn by members of the battalion, is of cadet gray, of the pattern worn at the U. S. Military Academy at West Point, and is furnished by the tailors having the contract, at a much lower price than it could be furnished to individuals. The student's measure is taken after he arrives at the College, and the fit is guaranteed. The uniform consists of cadet gray coat, trousers, and cap, with white web waist belt, and white web cross-belt for all military formations.

In summer the field service uniform is worn, consisting of the khaki shirt and trousers, campaign hat and canvas leggings.

The members of the battalion must wear the prescribed uniform at all time, except when on leave of absence, and at such times when other dress is permitted.

PROMOTIONS

The officers and non-commissioned officers of the corps are selected with reference primarily to their fitness for the duties they will be required to perform. Their general deportment, and proficiency in academic work is also given weight in making such selection. Commissioned officers are selected from the Senior Class, sergeants from the Junior Class, and corporals from the Sophomore Class.

Senior officers are required to serve for the year, performing all duties imposed by the regulations of the College, as part of their regular course of training. Failure to perform such duties shall constitute a deficiency, causing forfeiture of both diploma and commission.

Recommendation for promotion will be based upon the standing of a cadet at the end of the year, and the possibility of his being able to work off conditions during the summer will not be considered.

DISCIPLINE

The discipline of the institution is under the charge of the Commandant of Cadets at all times. All rules and orders relating to the organization and government of the corps of cadets, the appointment, promotion, and changes of officers, and all other orders affecting the Military Department are made and promulgated by the Commandant of Cadets, after having been approved by the President.

Cadets upon entering, are each required to pledge their word of honor that they will comply with all the rules and regulations of the institution. They are then given a copy of the Rules and Regulations of the College and are held responsible for all violations thereof.

Trivial breaches of regulations, absences from classes and formations, are punished by awarding demerits, confinements, walking extra guard hours, etc.

For aggravated offences the punishment may be arrests, withdrawal of privileges, suspension or expulsion, at the discretion of the Faculty and the President.

Demerits will be awarded for every unremoved report, the number depending upon the nature and degree of the offense.

For each month during which a cadet's conduct is perfect he will be given five (5) credits, which will cancel any five (5) demerits he may have standing against him.

Any cadet who shall accumulate more than an average of one demerit per day for any calendar month, shall be deprived of all privileges to leave the College for the following period of 30 days. Any cadet who shall accumulate more than an average of one demerit per day for any term, shall be suspended for the following term. Any cadet who having been once suspended, returns; and again in any one term accumulates more than an average of one demerit per day, shall be dismissed.

Smoking by any cadet of the Sophomore, Freshman, or Preparatory Department is strictly prohibited.

Any cadet who shall drink any spirituous or intoxicating liquor, or cause the same to be brought within cadet limits, or have the same in his possession is subject to immediate expulsion from the College.

Every applicant for admission, before he is allowed to matriculate, is required to give a special pledge to refrain from what is popularly known as "hazing." Parents should impress upon their sons that failure to live up to this pledge is a dishonor which unfits them to be students of this College. "Hazing" is invariably punished by instant dismissal.

THE CADET BAND

The Cadet Band has come to be recognized as a feature of the institution and one of the popular adjuncts of the battalion, and affords students of musical ability an excellent opportunity for musical instruction and practice, without cost.

The band is equipped with a set of first class instruments, furnished by the College, and under the direction of an experienced and competent bandmaster is rapidly being brought to a high state of efficiency. Members of the band are excused from certain military drills, but in other respects are subject to the usual military regulations. Rehearsals are held each day at the regular

drill period, and absence, without excuse is equivalent to absence from any class.

The band furnishes music for all ceremonies, such as guard mounting, review and inspections, dress parades, retreats, etc.

EMPLOYMENT OF TIME.

6:15 A. M.	Reveille.
6:15 to 6:30	Physical Drill.
7:00 A. M.	Breakfast.
7:35 A. M.	Inspection of Quarters.
7:55 A. M.	Chapel.
8:15 to 11:15	Recitations.
11:15 to 12:15	Drill.
12:20 P. M.	Dinner.
1:00 to 4:00 P. M.	Recitations.
4:00 to 5:45	Recreation.
5:45	Recall from Athletics.
6:00	Supper.
7:30	Call to Quarters.
10:15	Tattoo.
11:00	Taps.

Special daily calls.

4:05	Sick call.
4:15	Guard Mount.

Saturday and Sunday calls are one hour later.

DEPARTMENT OF ORATORY.

CHARLES S. RICHARDSON, PROFESSOR.

The object of this department is to give a thorough training in public speaking. The work is begun with easy lessons in elocution, and this is continued until the student has acquired a mastery of vocal expression, and a pleasing and forcible delivery. The student is then required to deliver both extempore and

prepared speeches, covering a wide range of subjects, in this way not only securing practice in delivery, but also developing the power of logical thought.

COURSES OFFERED.

320. ORATORY. Articulation, accent, modulation, inflection, force and elocutionary pause; expressive management of the body, attitude and motion. Selections of poetry and prose are read and declaimed by the students.

Freshman Year, First Term; 1 period per week.

321. ORATORY. Simple lectures on orators and oratory. Methods of analysis and subjects for orations. Original orations by students, both extempore and prepared, on simple abstract subjects, and speeches before the class on the less complex public questions. Subjects for orations requiring research in different departments of knowledge. Lectures on parliamentary law.

Freshman Year, Second and Third Terms; 1 period per week.

322. ORATORY. A review of all the work of the Freshman Year. More advanced selections for declamation (Shakespeare, Macaulay, Webster, etc.). Lectures on ancient and modern orators, with readings and declamations, by students, from orations.

Sophomore Year, First Term; 1 period per week.

323. ORATORY. Extempore speeches by students on various subjects. Prepared original orations by students on subjects requiring careful and intelligent research, including the important public issues of the day as Tariff, Currency, Territorial Expansion, Trades Unions, Trusts, Federal Control of Public Utilities, etc. Lectures on parliamentary law.

Sophomore Year, Second Term; 2 periods per week.

DEPARTMENT OF PHYSICAL CULTURE.

CHARLES S. RICHARDSON, DIRECTOR.

The physical culture of the students is provided for by a regular course of instruction in the Gymnasium. The course is carefully planned, so as to develop gradually and scientifically the physical powers of each student. Beginning with the simplest calisthenic exercises, the instruction covers the whole field of light and heavy gymnastic and field and track athletics.

The equipment and arrangement of the Gymnasium is very complete, and the interest manifested by the students is a sufficient proof of the success of this department. While desiring to make the work in the Gymnasium of practical value to all the students, the required work only extends through the Preparatory and Freshman years.

Three periods per week, Preparatory and First and Second Terms, Freshman Year.

One of the most valuable features of this department is a complete anthropometry outfit, by means of which measurements and strength tests of students are taken at the beginning, and also at the end of each scholastic year. By means of these measurements and tests the exact physical condition of each individual student can be ascertained, and such special exercises given as will produce a symmetrical development of the body.

A valuable adjunct to this department has been the College Athletic Association, of which mention is made under the head of "Student Organizations."

ATHLETIC COUNCIL. The Athletic Council consists of three members of the Faculty, appointed by the President, and five students, namely, the managers of the foot-ball, base-ball, track and tennis teams, and the President of the Athletic Association.

This Council, in conjunction with the Student Athletic Association, manages all athletic affairs.

PREPARATORY SCHOOL.

HENRY T. HARRISON, PROFESSOR IN CHARGE.

CHARLES S. RICHARDSON, ASSOCIATE.

This department was established in 1892. and reorganized in 1909; and is designed to meet the requirements of those students who have not had the advantages of a thorough grammar and high school training, with a view to equipping them to enter the regular collegiate department.

Only such students are desired as will be able to enter the Freshman Class within two years, and who are fifteen years of age. This course is recommended especially to students who have not been to school for several years; for the progress in the regular collegiate course, by virtue of such a drawback, would be seriously impeded. It is to be remarked that as a rule the students who have taken this course make excellent progress in their later college work. Students in this department are subject to the same military regulations as other students.

For outline of courses see pages 89, 90.

VETERINARY DEPARTMENT.

SAMUEL S. BUCKLEY, PROFESSOR.

This department offers instruction in the elements of the veterinary art. The course embraces the study of the external form as well as the internal structure and functions of the domesticated animals. It is intended to supplement animal husbandry instruction, and does not have for its object the training of students for veterinary practice. The preservation in health of animals is more aimed at than their restoration from disease. When studiously pursued the courses offered are of great value to the breeder, feeder or manager of live stock.

The accompanying brief descriptions indicate the scope of the courses offered:—

340. Farm Buildings. This course has for its object the development of proper ideas in the construction and arrangement of buildings for the housing of stock; the storage of food materials, animal and dairy products; and incidentally the storage of harness and implements. Convenience, economy and proper sanitation are especially considered in the study of plans and location. The course is made as practical as possible by the study of plans, specifications and photographs of existing structures, and by drawing simple plans to express individual ideas.

Sophomore Year, Second Term; 1 theoretical and 4 practical periods per week.

341. Anatomy and Physiology. This course embraces a general consideration of the structure and functions of the animal body, with especial reference to animal production and dairying.

Junior Year, Second Term; 3 theoretical periods per week.

342. Bacteriology. The practical study of bacteria, including their microscopic examination, cultivation and sterilization, is made. The intimate relation which this subject bears to fertilization, dairying and plant and animal diseases makes it important in the list of agricultural subjects.

Junior Year, Second Term; 2 theoretical and 4 practical periods per week.

343. Bacteriology. This course completes course 342 begun in the Junior Year.

Senior Year, Second Term; 8 practical periods per week.

344. Animal Diseases. A general review of the course on diseases of the domesticated animals with instruction in sanitation, practical bacteriology, nursing, administration of medicines and use of common medicinal substances. The aim of this course

is to enable the student to perceive the early appearance of diseases and intelligently care for them under proper veterinary supervision.

Senior Year, Second Term; 5 theoretical and 6 practical periods per week.

THE COLLEGE LIBRARY.

F. B. BOMBERGER, LIBRARIAN.

The College Library may be properly regarded as one of the departments of the institution, as its aid for purposes of reference and its influence upon the mental development of the students must always be felt throughout all courses. The present quarters of the Library, while adequate for its immediate needs, will necessarily be too limited in the course of time. The reading room is well arranged and lighted, and is in all respects comfortable and convenient.

While the Library is not large, the collection of works has been carefully chosen, and the shelves contain a fair supply of work of reference, history, biography, essays, poetry and the standard works of fiction. Several thousand volumes of bound United States Government Reports comprise an important addition to the reference works of the Library. Most of the leading magazines and a number of newspapers are subscribed for; technical periodicals and works of reference relating to specific branches are deposited in the libraries of the various departments.

The works in the Library are classified according to the modern Dewey Decimal System of classification. As rapidly as possible the sets of Government Reports that are most valuable are being completed and catalogued. At present there are on hand completed to date, or nearing completion, sets of the reports and bulletins of the United States Agricultural Department, the Geological Survey, the Fish Commission, the Smithsonian Institution, the National Museum, the Bureau of Ethnology, the

Bureau of Education, the Labor Bureau, the Census Bureau and the Bureau of American Republics. There are also nearly completed sets of the Consular Reports, Special Consular Reports, the Engineers Reports of the United States Army, the War of the Rebellion Record and Messages and Documents, besides many other miscellaneous publications of great value. Many valuable State publications are also on file.

It is the aim of the Librarian to render all these valuable works available for easy reference by the students.

Grateful acknowledgement is made to the officers of all the departments and bureaus above noted for their publications, and especially to the United States Superintendent of Documents, though whose aid many public documents have been received. Thanks are likewise due the following for valuable additions to the Library: Johns Hopkins University, the Geological Survey, the Weather Service, the Highway Commission, and the Bureau of Statistics and Information. Especial thanks are due the county press for their liberality in sending their publications free to the Library.

COURSES OF STUDY.

In order to systematize the work of the different departments of the College, and as far as possible arrange for specialization within limits consistent with the normal development of individual students, eight distinct courses of study have been prepared, one of which the student is expected to choose upon entering the regular college work.

These courses are Agriculture, Horticulture, General, Biological, Chemistry, Mechanical Engineering, Electrical Engineering and Civil Engineering.

A continuous and progressive course of work, beginning in the Freshman year, with a nearly uniform course for all students, and gradually separating in the three succeeding years until the class work is almost wholly specialized, has been found to be most satisfactory. A broad and liberal foundation in English, mathematics and history is laid in the Freshman and Sophomore years, and then the particular line of study desired is emphasized more and more until the end of the course.

In the tabular statement of the courses the hours per week are given, the numbers in parenthesis denoting practical or laboratory periods, others theoretical or recitation periods.

AGRICULTURAL COURSES

The four-year agricultural course is designed to fit the student for conducting practical operations on the farm, or, should taste or circumstances so direct, to successfully prosecute advanced scientific research along the lines of agronomy or animal husbandry. With this end in view, the course has been made at once comprehensive and technical, comprehensive enough to include whatever is necessary for the complete development of the work, yet technical enough to make the student feel that he is a specialist and equipped for special work.

This course is the result of development. While a man must specialize to attain any eminent success, yet in agricultural

Four Year Agricultural Course, Freshman and Sophomore Years.

The numerals indicate periods per week, those in parenthesis being practical work.

Freshman.	Terms.		
	I	II	III
Plane Geometry	5	2	.....
Algebra	3	.....	.....
Plane Trigonometry	.....	4	.....
Surveying	.....	.....	2(4)
English	5	5	5
History or Latin	3	3	3
Oratory	1	1	1
Geology	3(4)	.....	.....
Physics	.....	2	3
Zoology	.....	3(4)	.....
Elementary Botany	.....	.....	2(4)
Plant Propagation	.....	(2)	.....
Stock Judging	(2)	.....	.....
Farm Crops	.....	.....	1(4)
Mechanical Drawing	.....	(4)	.....
Freehand Drawing	(4)	.....	.....
Woodwork	.....	.....	(4)
.....	.....	.....	.....

Sophomore.	Terms.		
	I	II	III
Mathematics	3	5	.....
Surveying	.....	.....	2(4)
Rhetoric	3	3	.....
English Literature	.....	.....	3
Oratory	1	2	.....
German	.....	.....	5(1)
Physics	4	.....	.....
General Chemistry	4(2)	3(4)	3(4)
Plant Histology	(6)	.....	.....
Plant Physiology	.....	2(4)	.....
Entomology	.....	.....	2(2)
Soils	2(2)	2(4)	.....
Farm Buildings	.....	1(4)	.....
Fertilizers	.....	.....	2(2)
Farm Drainage. } Farm Crops. }	.....	.....	2(4)
Live Stock	2(2)	.....	.....
Mechanical Drawing	(4)	.....	.....

Four Year Agricultural Course, Junior and Senior Years.

Agronomy Division.

Junior.	Terms.		
	I	II	III
English Composition	1	1	1
Civics	.....	3	3
German Translation	3	3	3
Elementary Organic Chemistry	3	.....	.....
Qualitative Analysis	1(6)	.....	.....
Quantitative Analysis	.....	1(4)	1(4)
Mineralogy	.....	1(4)	.....
Economic Plants	.....	.....	2(4)
Farm Crops	.....	2(2)	2(4)
Soils	2(2)	3(4)	.....
Farm Drainage	.....	.....	2(2)
Breeds and Scoring	3(4)	.....	.....
Principles of Breeding	3	.....	.....
Live Stock Management	.....	2	.....
Olericulture	.....	.....	2(3)
Pomology	2(2)	2(2)	.....
.....	.....	.....	.....
.....	.....	.....	.....

Senior.	Terms.		
	I	II	III
English Classics	4	4	4
Psychology	4	.....	.....
English Composition	1	1	1
Current Topics	.....	.....	1(1)
Political Economy	3	4	.....
Business Law	.....	.....	4
Scientific German	4	.....	.....
Agricultural Chemistry	3	.....	.....
Quantitative Analysis	(4)	.....	.....
Vegetable Pathology	.....	2(4)	.....
Plant Production	3(4)	.....	.....
Fertilizers	.....	3(4)	.....
Farm Machinery	.....	.....	2(4)
Farm Management	.....	.....	2
Crop Produc. or Soils	.....	.....	2(4)
Farm Forestry	.....	3	.....
Plant Breeding	.....	2	2
Research and Thesis	(2)	2(4)	2(4)

Four Year Agricultural Course, Junior and Senior Years.
Animal Husbandry Division.

Junior.	Terms.		
	I	II	III
English Composition	1	1	1
Civics	.....	3	3
German Translation	3	3	3
Elementary Organic Chemistry	3	.....	.....
Qualitative Analysis	1(6)	.....	.....
Quantitative Analysis	.....	1(4)	1(4)
Organic Chemistry	.....	3	3
Zoology	3(3)	.....	.....
Anatomy and Physiology	.....	3(6)	.....
Soils	2(2)	3(4)	.....
Farm Drainage	.....	.....	2(2)
Breeds and Scoring	3(4)	.....	.....
Principles of Breeding	3	.....	.....
Live Stock Management	.....	2	2(2)
Dairying	.....	.....	3(4)
Research	.....	.....	2(2)
.....	.....	.....	.....

Senior.	Terms.		
	I	II	III
English Classics	4	.....	.....
Psychology	*4	.....	.....
English Composition	1	1	1
Current Topics	.....	.....	1(1)
Political Economy	3	4	.....
Business Law	.....	.....	4
Scientific German	*4	.....	.....
Agricultural Chemistry	3	.....	.....
Quantitative Analysis	(4)	.....	.....
Veterinary Science	.....	4(6)	.....
Farm Management	.....	.....	2
Stock Judging	(4)	.....	.....
Herd Book	2(2)	.....	.....
Animal Nutrition	.....	4	4(4)
Farm Forestry	.....	3	.....
Small Fruits	.....	.....	2(2)
Research and Thesis	(2)	2(4)	4(4)

*Psychology and German alternative.

science it is not possible to specialize to the same degree as in some others, because it is itself made up of many sciences. Experience has clearly shown also that in agriculture the practical must keep even pace with the theoretical, that true education trains the eye and hand as well as the intellect, and should give to the student the abilty not only to acquire and originate ideas, but also to express them in words and deeds.

In the Junior year the course is divided into two sections, known as the Division of Agronomy and the Division of Animal Husbandry. This arrangement enables the student to specialize along whichever line accords with his interests or desires, while at the same time he is taught the fundamental facts of both. This enables him to see most clearly, and to harmonize his work to, the relations which must exist between these great branches of agriculture.

TWO-YEAR COURSE IN AGRICULTURE.

A large number of young men seeking to better themselves in their chosen profession of farming are calling for instruction in those courses pertaining to practical agriculture. Many of them have neither the time nor means at hand to take the full four-year course, but while away in school they wish to gain the greatest possible amount of instruction and assistance which is particularly applicable to the farm. The farm can no longer be run in the old-time haphazard way. There is a demand for skill and the highest order of intelligence to make a success on the farm, as in any other line of human endeavor. Brains must be planted with each little seed, and again put into the feeding trough for the animal. To meet the demand for instruction along these lines, and for a better understanding of the underlying principles of successful agriculture, a short course of two years has been provided.

It embraces much of the technical work of the four-year course, and is especially designed to lay a foundation that will secure success in practical farming, which, as it must be conducted today, is a union of many interests. To enter this course a working knowledge of arithmetic, including fractions, mensuration and percentage, and a common-school training in English, is required.

Upon completion of this course a certificate is granted, taking the place of the diploma for the four-year course. See outline of course on pages 89, 90.

SPECIAL WINTER COURSE IN AGRICULTURE.

A ten-week course designed for those who are unable to take one of the longer courses, and including the largest amount of purely practical information about farming in all its phases. This course is invaluable to the young man desiring that information on agricultural topics so necessary to meet the sharp competition of the present day. The College authorities have removed the nominal charge of $5.00. We are anxious to have the young men of Maryland who intend to remain on the farm, embrace this opportunity. Many cannot afford a four-year course; this solves the problem for them.

Each student will be required to take not less than two hundred and fifty hours of work. Two hundred of these must be devoted to the following specified studies:

Soils, 22 hours.	Agricultural Chemistry, 20 hours.
Farm Dairying, 20 hours.	Farm Live Stock, 30 hours.
Manures, 20 hours.	Stock Feeding, 15 hours.
Plant Production, 25 hours.	Horticulture, 40 hours.

The other fifty hours will be devoted to such topics as the student may elect from the following: Veterinary Science, 40 hours; Tobacco Culture, 5 hours; Plant Physiology and Pathology, 15 hours; Economic Entomology, 20 hours; Carpentering and Blacksmithing, 45 hours; Farm Accounts, 12 hours; Road Construction and Leveling, 5 hours; Civil Government, 10 hours.

Tuition and room free. No expense for use of laboratories or supplies. Good board at moderate rates can be secured in the neighboring villages of Berwyn, Lakeland, Riverdale and Hyattsville—all within a short distance of the College and Experiment Station. Electric cars make frequent connections. A limited number can be accommodated at the College at $40.00 for the course. Students will be expected to furnish their own bed

clothes, pillows, towels, napkins and overalls for dairy work. Short course students are not required to drill or wear uniforms.

BIOLOGICAL COURSE

The Biological course while offering a general education and special training in the natural sciences is outlined in particular for those who wish to specialize in some branch of botany or zoology. It aims to fit men for practical work in the field of plant pathology and entomology, but will also give training for special work in the pure sciences.

There are many opportunities for scientific workers in connection with the agricultural investigations of the federal government and the state experiment stations, as well as in the state inspection work, for which this course gives training. In fact, it is now difficult to secure men trained for such work. Full opportunity is given for the student to develop his natural resources and to learn to do work on his own responsibility. A large part of his time is spent in both practical and theoretical biological studies without neglecting the cultural studies which are a necessary foundation for every specialist. Upon completion of the four year's work the degree of Bachelor of Science is conferred.

CHEMICAL COURSE

The Course in Chemistry is essentially the same as the other Science Courses until the beginning of the Junior Year, though any of the four-year courses would prepare for this, as the amount of chemistry is the same in all courses to the end of the Sophomore year, and the demands on the agricultural or technical chemist are now so varied that a foundation with more of the essentials of the agricultural or the mechanical courses is often desirable.

Beginning with the Junior year the major part of the student's time is devoted to chemistry, the practical work in the laboratory occupying approximately half of his time. The course is essentially a course in agricultural chemistry, fitting the graduate for positions in agricultural colleges, experiment stations, or the United States Department of Agriculture.

Biological Course.

FRESHMAN AND SOPHOMORE YEARS.

Freshman.	Terms.			Sophomore.	Terms.		
	I	II	III		I	II	III
Plane Geometry	5	2	.....	Mathematics	3	5	.....
Algebra	3	.....	.....	Surveying	.....	.....	2(4)
Plane Trigonometry	.....	4	.....	Rhetoric	3	3	.....
Surveying	.....	.....	2(4)	English Literature	.....	.....	3
English	5	5	5	Oratory	1	2	.....
History or Latin	3	3	3	German	.....	.....	5(1)
Oratory	1	1	1	Physics, Elementary	4	.....	.....
Geology	3(4)	.....	.....	General Chemistry	4(2)	3(4)	3(4)
Physics	.....	2	3	Plant Histology	(6)	.....	.....
Zoology	.....	3(4)	.....	Plant Physiology	.....	2(4)	.....
Elementary Botany	.....	.....	2(4)	Zoology	2(4)	2(4)	2(2)
Plant Propagation	.....	(2)	.....	Entomology	.....	.....	2(2)
Stock Judging	(2)	.....	.....	Soils	2(2)	2(4)	.....
Farm Crops	.....	.....	1(4)	Farm Buildings	.....	1(4)	.....
Freehand Drawing	(4)	.....	.....	Fertilizers	.....	.....	2(2)
Mechanical Drawing	.....	(4)	.....	Farm Drainage. }	.....	.....	2(4)
Woodwork	.....	.....	4	Farm Crops. ... }			
.....	.....	.....	.....	Live Stock	2(2)	.....	.....
.....	.....	.....	.....	Mechanical Drawing	(4)	.....	.....
.....	.....	.....	.....	Fruit Growing	.....	3(2)	.....

Biological Course.

JUNIOR AND SENIOR YEARS.

Junior.				Senior.			
English Composition	1	1	1	English Classics	4	4	4
*English Literature	3	2	.....	Psychology	4	.....	.....
Civics	.....	3	3	English Composition	1	1	1
*Logic	.....	.....	3	Current Topics	.....	.....	1(1)
German Translation	3	3	3	Political Economy	3	4	.....
Physics	4(4)	4(4)	4(4)	Business Law	.....	.....	4
Elementary Organic Chemistry	3	.....	.....	*Scientific German	4	4	4
Qualitative Analysis	1(6)	.....	.....	*French	.....	5	4
Quantitative Analysis	.....	1(4)	1(4)	‡Farm Forestry	.....	3	.....
Mineralogy	.....	1(4)	.....	Mycology	2(2)	.....	.....
Zoology	3(6)	.....	.....	Advanced Entomology	3	3	3
*Systematic Entomology	2(4)	.....	2(4)	§Botany or Entomology	7	8	10
Economic Entomology	.....	.....	2(4)	Plant Breeding	.....	2	.....
Plant Morphology	.....	.....	2(4)	.....	.....	.....	.....
Anatomy and Physiology	.....	3(6)	.....	.....	.....	.....	.....

*Literature and Logic replace Entomology for Botanical students.
†Alternative.
‡Elective.
§Largely Practical.

Chemical Course.

Freshman.	Terms. I	II	III
Plane Geometry	5	2	.....
Algebra	3	.....	.....
Plane Trigonometry	.....	4	.....
Surveying	.....	.....	2(4)
English	5	5	5
History or Latin	3	3	3
Oratory	1	1	1
Geology	3(4)	.....	.....
Physics	.....	2	3
Zoology	.....	3(4)	.....
Elementary Botany	.....	.....	2(4)
Plant Propagation	.....	(2)	.....
Stock Judging	(2)	.....	.....
Farm Crops	.....	.....	1(4)
Freehand Drawing	(4)	.....	.....
Mechanical Drawing	.....	(4)	.....
Woodwork	.....	.....	(4)

Sophomore.	Terms. I	II	III
Mathematics	3	5	.....
Surveying	.....	.....	2(4)
Rhetoric	3	3	.....
English Literature	.....	.....	3
Oratory	1	2	.....
German	.....	.....	5(1)
French	3	3	3
General Chemistry	4(2)	3(4)	3(4)
Physics	4	.....	.....
Zoology	2(4)	2(2)	2(2)
Plant Histology	(6)	.....	.....
Plant Physiology	.....	2(4)	.....
Mechanical Drawing	(4)	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Junior.			
English Composition	1	1	1
Civics	.....	3	3
German Translation	3	3	3
Physics	4(4)	4(4)	4(4)
Elementary Organic Chemistry	3	.....	.....
Qualitative Analysis	1(12)	.....	.....
Inorganic Preparations	(4)	.....	.....
Theoretical Chemistry	2	.....	.....
Quantitative Analysis	.....	1(12)	.....
Mineralogy	.....	1(4)	.....
Organic Chemistry	.....	3	3
Volumetric Analysis	.....	.....	2(16)

Senior.			
English Composition	1	1	1
Current Topics	.....	.....	1(1)
Political Economy	3	4	.....
Business Law	.....	.....	4
Scientific German	4	4	4
Organic Chemistry	3	.....	.....
Organic Preparations	.....	(16)	.....
Agricultural Chemistry	3	.....	.....
Agricultural Analysis	(20)	.....	.....
Indus. Phys. and Elec. Chem.	.....	6(4)	5
Research and Thesis	.....	.....	(20)
.....	.....	.....	.....

CIVIL ENGINEERING COURSE

This course offers a young man an opportunity to obtain training in civil engineering that will enable him to engage in practical engineering work in the field or in the drafting room with the assurance that he has the necessary preparation to profit by the experience thus afforded; or that will entitle him to advanced standing, if he desires to pursue a more extended course at a technical school of a higher grade. The curriculum, which is outlined on the following pages, includes not only studies having culture value, but the sciences which form the basis of engineering. Students who have found themselves deficient in ability to learn mathematics are not advised to enter an engineering course. Upon the satisfactory completion of this course the degree of Bachelor of Science in Civil Engineering, is conferred.

A thesis dealing with some problem in Engineering will be required of all applicants for the degree of Bachelor of Science in Civil Engineering.

All engineering students in the Junior and Senior Classes will be required to spend a portion of their time in the reading of the current engineering magazines.

ELECTRICAL ENGINEERING COURSE

This course is being introduced because of the great demand for young men who are not only well trained in the practical construction and operation of electrical machines, but who have a thorough knowledge of the principles and laws controlling the phenomena and forces with which they have to deal.

The general plan of the course will be to make the student thoroughly acquainted with the scientific laws which are the basis of the profession, and at the same time to train him to adapt the laws to practise, to use his own judgment, and to apply honest and accurate methods in all his work.

The curriculum, as outlined in the following pages, for the Freshman, Sophomore and Junior Classes of the Session 1909-1910, includes those studies which provide a broad general culture, as well as a good foundation for the engineering work which follows. From the beginning of the Second Term of the Sophomore Year the electrical training will extend continuously throughout the course.

Civil Engineering Course.

Freshman.	Terms. I	II	III
Algebra	3	2	.....
Plane Geometry	5	2	.....
Solid Geometry	.....	.....	5
Plane Trigonometry	.....	4	3
English	5	5	5
Literature	.....	.....	3
History or Latin	3	3	3
Oratory	1	1	1
Geology	3(4)	.....	.....
Freehand Drawing	(6)	.....	.....
Mechanical Drawing	.....	(6)	(4)
Woodwork	.....	(6)	.....
Theory of Mechanics	.....	2	2
Surveying	.....	.....	2(4)

Sophomore.	Terms. I	II	III
Mathematics	5	7	5
Rhetoric	3	3	.....
Literature	.....	.....	5(2)
German	.....	.....	5(1)
Oratory	1	2	.....
General Chemistry	4(2)	3(4)	3(4)
Physics, Elementary	4	.....	.....
Mechanics, Elementary	.....	3	.....
Mechanical Drawing	(6)	.....	.....
Architectural Drawing	.....	(4)	.....
Descriptive Geometry	.....	3(4)	3(4)
Blacksmithing	(4)	.....	.....
Applied Mechanics	4	.....	.....
	.....	.....	.....

Junior.			
Analytical Geometry	5	.....	.....
Calculus	.....	5	5
English Composition	1	1	1
Civics	.....	3	3
German Translation	3	3	3
Physics	4(4)	4(4)	4(4)
Surveying	3(5)	3(2)	2(4)
Topog. Drawing	(6)	(6)	(4)
Railway Engineering	.....	.....	2
	.....	.....	.....
	.....	.....	.....
	.....	.....	.....
	.....	.....	.....
	.....	.....	.....

Senior.			
English Composition	1	1	1
Current Topics	.....	.....	1(1)
Political Economy	3	4	.....
Business Law	.....	.....	4
*Scientific German	4	4	4
*French	.....	5	4
Graphic Statics	4	.....	.....
Structural Design	2(4)	2(4)	2(4)
Strength of Materials	4	.....	.....
Hydraulics	.....	5	.....
Railway Engineering	2	.....	.....
Highway Engineering	.....	.....	3
Estimates of Cost	.....	.....	1
Field Engineering	(8)	(8)	(12)
Wood Technology	.....	1	.....

Electrical Engineering Course.

Freshman.	Terms. I	II	III
Algebra	3	2	.....
Plane Geometry	5	2	.....
Solid Geometry	.....	.....	5
Plane Trigonometry	.....	4	3
English	5	5	5
History or Latin	3	3	3
Oratory	1	1	1
Freehand Drawing	(6)	.....	.....
Mechanical Drawing	.....	(6)	(4)
Woodwork	.....	(6)	.....
Theory of Mechanics	.....	2	2
Surveying	.....	.....	2(4)
Technical Instruction	2	.....	.....
.....	.....	.....	.....

Sophomore.	Terms. I	II	III
Mathematics	5	7	5
Rhetoric and Composition	3	3	.....
English Literature	.....	.....	3
Oratory	1	2	.....
German Grammar and Comp.	.....	.....	5(1)
General Chemistry	4(2)	3(4)	3(4)
Physics, Elementary	4	.....	.....
Electricity, Elementary	.....	2	2
Mechanics, Elementary	.....	3	.....
Mechanical Drawing	(6)	.....	.....
Applied Mechanics	4	.....	.....
Blacksmithing	(4)	.....	.....
Foundry Work	.....	.....	(4)
Descriptive Geometry	.....	3(4)	3(4)

Junior.			
Analytics	5	.....	.....
Calculus	.....	5	5
English Composition	1	1	1
German	3	3	3
Civics	.....	3	3
Physics	4(4)	4(4)	4(4)
Dynamos	3	3	3
Electrical Laboratory	(4)	(4)	(4)
Elec. Machine Design	.....	(2)	(4)
Machine Design	2(4)	.....	.....
Machine Work	(4)	(4)	.....

Senior.

The course for the Senior Year will be outlined as required.

GENERAL COURSE

The general course is offered to those young men who have not chosen as their vocation in life any of the technical professions, but who are seeking for such general culture as will fit them to become, after graduation, useful members of society. Young men desiring to study law, or medicine, or the liberal arts, or to become teachers, will find in the curriculum of this course a highly satisfactory preparation for such work. While emphasis has been placed upon the cultural subjects, such as English, Language, Literature, History, Mathematics, etc., the natural sciences occupy a prominent place in the course and the range of electives beginning in the Junior year will enable each to choose for himself, under certain necessary regulations, such a group of studies as will be best adapted to his own peculiar requirements.

FOUR-YEAR COURSE IN HORTICULTURE

The Horticultural Course is designed to give practical and scientific instruction in the great productive occupation of Horticulture. Practical work in orchard, garden and greenhouse is made a prominent feature of the course, especially in its early part, which is designed to train young men in all the details of general fruit and truck growing. In this work the orchards, nursery and vineyard of the College and Experiment Station, which contain a great many varieties of all hardy commercial fruits, are used for practice and demonstration.

In the Freshman and Sophomore years the work is not materially different from that of the Agricultural and Biological courses, but in the Junior and Senior years the subjects of the course become grouped and specialized, and include a thesis upon some horticultural topic.

The advanced work in horticulture is built on the practical work before outlined, but tends to the scientific side, and the training of men for scholastic and experimental work in colleges, experiment stations, or in the Department of Agriculture. Excursions are made by the students to floral establishments in Baltimore and Washington to note and study the commercial

General Course.

Freshman.	Terms.		
	I	II	III
Mathematics	8	6	.....
Suveying	.....	.....	2(4)
English	5	4	5
Oratory	1	1	1
Historv or Latin	3	3	3
Geology	3(4)	.....	.....
Physics	.....	2	3
Zoology	.....	3(4)	.....
Elementary Botany	.....	.....	2(4)
Farm Crops	.....	.....	1(4)
Stock Judging	(2)	.....	.....
Freehand Drawing	(4)	.....	.....
Mechanical Drawing	.....	(4)	.....
Woodwork	.....	.....	(4)
Plant Propagation	.....	(2)	.....

Sophomore.	Terms.		
	I	II	III
Mathematics	3	5	.....
Surveying	.....	.....	2(4)
Rhetoric	3	3	.....
English Literature	.....	.....	3
Oratory	1	2	.....
German	.....	.....	5(1)
General Chemistry	4(2)	3(4)	3(4)
Physics	4	.....	.....
Zoology	2(4)	2(4)	2(2)
Entomology	.....	.....	2(2)
Plant Histology and Physiology	(8)	2(4)	.....
Farm Crops and Drainage	.....	.....	2(4)
Fruit Growing	.....	3(2)	.....
Mechanical Drawing	(4)	.....	.....
.....	.....	.....	.....

The Junior and Sophomore years will be outlined as required.

Four Year Horticultural Course.

Freshman.	Terms. I	II	III
Plane Geometry	5	2	.....
Algebra	3	.....	.....
Plane Trigonometry	.....	4	.....
Surveying	.....	.....	2(4)
English	5	5	5
History or Latin	3	3	3
Oratory	1	1	1
Geology	3(4)	.....	.....
Physics	.....	2	3
Zoology	.....	3(4)	.....
Elementary Botany	.....	.....	2(4)
Plant Propagation	.....	(2)	.....
Stock Judging	(2)	.....	.....
Farm Crops	.....	.....	1(4)
Freehand Drawing	(4)	.....	.....
Mechanical Drawing	.....	(4)	.....
Woodwork	.....	.....	(4)

Sophomore.	Terms. I	II	III
Mathematics	3	5	.....
Surveying	.....	.....	2(4)
Rhetoric	3	3	.....
English Literature	.....	.....	3
Oratory	1	2	.....
German	.....	.....	5(1)
Physics, Elementary	4	.....	.....
General Chemistry	4(2)	3(4)	3(4)
Plant Physiology	.....	2(4)	.....
Plant Histology	(6)	.....	.....
Zoology	2(4)	2(4)	2(2)
Entomology	.....	.....	2(2)
Farm Drainage / Farm Crops	.....	.....	2(4)
Mechanical Drawing	(4)	.....	.....
Fruit Growing	.....	3(2)	.....
Plant Propagation	(6)	.....	.....

Junior.			
English Composition	1	1	1
English Literature	3	2	.....
Civics	.....	3	3
German Translation	3	3	3
Elementary Organic Chemistry	3	.....	.....
Qualitative Analysis	1(6)	.....	.....
Systematic Entomology	.....	.....	2(4)
Plant Histology	.....	(8)	.....
Plant Morphology	1(3)	.....	.....
Economic Plants	.....	.....	2(4)
Soils	2(2)	4(2)	.....
Farm Drainage	.....	.....	2(2)
Olericulture	.....	.....	2(3)
Pomology	2(2)	2(2)	.....
Horticulture	.....	3(2)	3(2)

Senior.			
*English Classics	4	.....	.....
Psychology	4	.....	.....
English Composition	1	1	1
Current Topics	.....	.....	1(1)
Political Economy	3	4	.....
Business Law	.....	.....	4
*Scientific German	4	.....	.....
Agricultural Chemistry	3	.....	.....
Mycology	2(2)	.....	.....
Vegetable Pathology	.....	2(4)	.....
Farm Machinery	.....	.....	(4)
Farm Forestry	.....	3	.....
Pomology, Systematic	2(2)	.....	2(2)
Small Fruits	.....	.....	2(2)
Fruit Harvesting			

aspects of floriculture. Models in landscape architecture and treatment are furnished by the parks and government grounds in and about the national capital. The State Horticultural Society, by its meetings and exhibitions, affords the horticultural students of the College excellent training in the work of identifying, noting and judging fruit and vegetables.

TWO-YEAR COURSE IN HORTICULTURE.

The two-year course in Horticulture is intended for young men who wish to devote themselves to fruit and vegetable growing, or to commercial nursery or flower business, and who cannot afford the time required for a regular college course.

The course includes practically all of the subjects given in the Department of Horticulture, and those of the courses in Agriculture that are of importance for the study of general horticulture. Besides these, there is also a good training in English language, botany, entomology and chemistry.

Upon finishing the Course the student gets a certificate which gives him credit for the work he has completed at the College.

For outline of course see pages 89, 90.

MECHANICAL ENGINEERING COURSE

The work of the several years of this course differs from the preceding courses (Agricultural, Horticultural, Biological and General) mainly in the omission of those subjects of a biological character and inclusion of mathematics and shop work. The shop work supplements the mathematical, especially in the last two years, when problems in machine design are worked out, so far as time allows, in the actual construction of the parts designed. The practical work of this course is most thorough. The student is familiarized from the first with the use of tools and implements used in wood and iron work. He is given daily practice in the shops, and is encouraged to develop whatever inventive talent he may have. Results have shown that students completing this course have no difficulty in securing employment immediately upon graduation in the field of mechanics or mechanical engineering.

Mechanical Engineering Course.

Freshman.	Terms. I	II	III
Solid Geometry	.....	.....	5
Plane Trigonometry	.....	4	3
Algebra	3	2	.....
Plane Geometry	5	2	.....
Language and Composition	5	5	5
American Literature	.....	.....	3
History or Latin	3	3	3
Oratory	1	1	1
Mechanical Drawing	.....	(6)	(6)
Freehand Drawing	2	.....	.....
Technical Instruction	.....	(6)	(6)
Woodwork	(6)	.....	.....
Shop Work	(6)	.....	.....

Sophomore.	Terms. I	II	III
Mathematics	5	7	5
Rhetoric and Composition	3	3	.....
English Literature	.....	.....	3
Oratory	1	2	.....
German Grammar and Composition	.....	.....	5(1)
General Chemistry	4(2)	3(4)	3(4)
Physics, Elementary	4	.....	.....
Mechanics, Elementary	.....	3	.....
Mechanical Drawing	(6)	.....	.....
Applied Mechanics	4	3	.....
Blacksmithing	(4)	(4)	.....
Foundry Work	.....	.....	(8)
Descriptive Geometry	.....	3(4)	3(4)

Junior.			
Analytical Geometry	5	.....	.....
Calculus	.....	5	5
English Composition	1	1	1
Civics	.....	3	3
German Translation	3	3	3
Machine Design	2(4)	2(4)	2(4)
Machine Work	(6)	(6)	(6)
Steam Engines	4	.....	.....
Physics	4(4)	4(4)	4(4)
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Senior.			
English Composition	1	1	1
Current Topics	.....	.....	1(1)
Political Economy	3	4	.....
Business Law	.....	.....	4
*Scientific German	4	4	4
*French	.....	5	4
Power Plants	.....	3	.....
Machine Design	2(4)	2(4)	2(4)
Graphic Statics	4	.....	.....
Machine Work	(8)	(8)	(8)
Experimental Engineering	.....	.....	3(3)
Strength of Materials	4	.....	.....
Wood Technology	.....	1	.....
Research and Thesis	.....	†	†

*German and French alternative in Second and Third Terms.

SYNOPSIS OF COURSES,

1909-1910.

The figures represent the number of recitation periods per week, those in parenthesis indicating practical or laboratory work.

TWO YEAR COURSES.

FIRST YEAR.

Preparatory		*Agricultural*		*Horticultural*	
FIRST TERM.		FIRST TERM.		FIRST TERM.	
English	5	Stock Judging	1(4)	Stock Judging	1(4)
Arithmetic	3	Soils	2(4)	Soils	2(4)
Algebra	5	Fruit Growing	3(2)	Fruit Growing	3(2)
U. S. History	5	Farm Chemistry	2(2)	Farm Chemistry	2(2)
Elocution	(1)	Farm Botany	(4)	Farm Botany	(4)
Elementary Science	(5)	Farm Arithmetic	3	Farm Arithmetic	3
M. H. Drawing and Shopwork	(4)	English	5	English	5
Physical Culture	(3)	Farm Literature	(2)	Farm Literature	(2)
SECOND TERM		SECOND TERM		SECOND TERM	
English	5	Plant Propagation	1(4)	Plant Propagation	1(4)
Arithmetic	3	Soils	2(4)	Soils	2(4)
Algebra	5	Fruit Growing	3(2)	Fruit Growing	3(2)
U. S. History	5	Farm Buildings	1(4)	Farm Buildings	1(4)
Elocution	(1)	Farm Chemistry	2(2)	Farm Chemistry	2(2)
Elementary Science	(5)	Mech. Drawing	(4)	Mech. Drawing	(4)
M. H. Drawing and Shopwork	(4)	English	5	English	5
Physical Culture	(3)	Farm Literature	(2)	Farm Literature	(2)
THIRD TERM		THIRD TERM		THIRD TERM	
English	5	Farm Crops	2(4)	Farm Crops	2(4)
Arithmetic	3	Farm Drainage	2(4)	Farm Drainage	2(4)
Algebra	5	Farm Chemistry	2(2)	Farm Chemistry	2(2)
Maryland History	5	Farm Zoology	2	Farm Zoology	2
Elocution	(1)	Farm Botany	2(4)	Farm Botany	2(4)
Elementary Science	(5)	Farm Accounts	(4)	Farm Accounts	(4)
M. H. Drawing and Shopwork	(4)	Farm Woodwork	(4)	Farm Woodwork	(4)
Physical Culture	(3)	English	4	English	4
		Farm Literature	(2)	Farm Literature	(2)

SECOND YEAR

Sub-Freshman		*Agricultural*		*Horticultural*	
FIRST TERM.		FIRST TERM.		FIRST TERM.	
English	5	Farm Management	2(2)	Farm Management	2
Algebra	5	Farm Machinery	2(4)	Farm Machinery	2
Geometry	4	Poultry Raising	2	Poultry Raising	2
Language	3	Systematic Pomology.	(4)	Systematic Pomology.	4
Physics	2	Fruit Harvesting	2(2)	Fruit Harvesting	2
Elocution	(1)	English Comp. and Farm Literature	1(2)	English Comp. and Farm Literature	1
English History		Crop Production	3(4)	Home Grounds	2
*Elementary Agricultural Science	(1) (6)	Principles of Breeding	3	Small Fruit Growing	2
Freehand Drawing	(4)	Animal Nutrition	2		
†Physical Culture	(4)				
SECOND TERM		SECOND TERM		SECOND TERM	
English	5	Animal Diseases	2(4)	Animal Diseases	2
Algebra	5	Farm Forestry	3(2)	Farm Forestry	3
Geometry	4	English Comp. and Farm Literature	1(2)	English Comp. and Farm Literature	1
Language	3	Business Law	3	Business Law	3
Physics	2	Grain Judging	2(4)	Greenhouse Construc'n	2
Elocution	(1)	Dairy Bacteriology	(2)	Pipe Fitting	
English History	(1)	Advanced Stock Jud'g	(4)	Greenhouse Crops	3
*Elementary Agricultural Science	(6)	Animal Nutrition	2	Spraying	1
Freehand Drawing	(4)	Feeds and Feeding	3(2)		
†Physical Culture	(4)				
THIRD TERM		THIRD TERM		THIRD TERM	
English	5	Fertilizers	3(4)	Fertilizers	3
Algebra	5	Vegetable Gardening	2(4)	Vegetable Gardening	2
Geometry	4	English Comp. and Farm Literature	1(2)	English Comp. and Farm Literature	1
Language		Insect Pests	2(2)	Insect Pests	2
Physics	3	Plant Diseases	2(2)	Plant Diseases	2
Elocution	2	Crop Production	3(4)	Greenhouse Crops	3
English History	(1)	Dairying	3(4)	Plant Breeding	4
*Elementary Agricultural Science	(1)				
Bookkeeping	(6)				
†Physical Culture	(4)				
	(4)				

*Includes introductory exercises in Botany, Entomology, Physical Geography, etc.
†Includes Physical Culture, Elementary Physiology and Hygiene.

FOUR YEAR COURSES.

FRESHMAN YEAR.	Agricult.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.								
Plane Geometry	5	5	5	5	5	5	5	5
Algebra	3	3	3	3	3	3	3	3
English	5	5	5	5	5(2)	5	5	5
Oratory	1	1	1	1	1	1	1	1
History or Latin	3	3	3	3	3	3	3	3
Geology	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	.....	.....
Freehand Drawing	(4)	(4)	(4)	(4)	(4)	(6)	(6)	(6)
Stock Judging	(2)	(2)	(2)	(2)	.....	.....	.....	.....
Technical Instruction	.....	.....	.....	.....	.....	.....	2	2
Shopwork	.....	.....	.....	.....	.....	.....	(6)	(6)
SECOND TERM.								
Plane Geometry	2	2	2	2	2	2	2	2
Plane Trigonometry	4	4	4	4	4	4	4	4
Algebra	.....	.....	.....	.....	2	2	2	2
English	5	5	5	5	5(2)	5	5	5
Oratory	1	1	1	1	1	1	1	1
History or Latin	3	3	3	3	3	3	3	3
Physics	2	2	2	2	.....	.....	.....	.....
Zoology	3(4)	3(4)	3(4)	3(4)	3(4)	.....	.....	.....
Plant Propagation	(2)	(2)	(2)	(2)	.....	.....	.....	.....
Mechanical Drawing	(4)	(4)	(4)	(4)	(4)	(6)	(6)	(6)
Woodwork	.....	.....	.....	.....	.....	(6)	(6)	(6)
Theory of Mechanics	.....	.....	.....	.....	.....	2	2	2
THIRD TERM.								
Solid Geometry	.....	.....	.....	.....	5	5	5	5
Plane Trigonometry	.....	.....	.....	.....	3	3	3	3
Surveying	2(4)	2(4)	2(4)	2(4)	.....	2(4)	.....	2(4)
English	5	5	5	5	5(4)	5	5	5
Oratory	1	1	1	1	1	1	1	1
History or Latin	3	3	3	3	3	3	3	3
Physics	3	3	3	3	.....	.....	.....	.....
Botany	2(4)	2(4)	2(4)	2(4)	2(4)	.....	.....	.....
Farm Crops	1(4)	1(4)	1(4)	1(4)	.....	.....	.....	.....
Mechanical Drawing	.....	.....	.....	.....	.....	(4)	(6)	(4)
Woodwork	(4)	(4)	(4)	(4)	(4)	.....	.....	.....
Theory of Mechanics	.....	.....	.....	.....	.....	2	2	2
Shopwork	.....	.....	.....	.....	.....	.....	(6)	.....

SOPHOMORE YEAR.	Agricult.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.								
Mathematics	3	3	3	3	5	5	5	5
Rhetoric	3	3	3	3	3	3	3	3
Oratory	1	1	1	1	1	1	1	1
French	.....	.....	3	.....	3	.....	.....	.....
Chemistry	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)
Physics	4	4	4	4	4	4	4	4
Zoology	.....	.....	2(4)	2(4)	2(4)	.....	.....	.....
Plant Histology	(6)	(6)	(8)	(6)	.....	.....	.....	.....
Live Stock	2(2)	.....	.....	.....	.....	.....	.....	.....
Plant Propagation	.....	(6)	.....	.....	.....	.....	.....	.....
Soils	2(2)	2(2)	.....	.....	.....	.....	.....	.....
Mechanical Drawing	(4)	(4)	(4)	(4)	(4)	(6)	(6)	(6)
Applied Mechanics	.....	.....	.....	.....	.....	4	4	4
Shopwork	.....	.....	.....	.....	.....	(4)	(4)	(4)
SECOND TERM.								
Mathematics	5	5	5	5	5	7	7	7
Rhetoric	3	3	3	3	3	3	3	3
Practical English	.....	.....	.....	.....	(2)	.....	.....	.....
Oratory	2	2	2	2	2	2	2	2
French	.....	.....	.....	ε	3	.....	.....	.....
Latin	.....	.....	.....	.....	3	.....	.....	.....
Chemistry	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)
Zoology	.....	.....	2(4)	2(2)	2(2)	.....	.....	.....
Plant Physiology	2(4)	2(4)	2(4)	2(4)	.....	.....	.....	.....
Farm Buildings	1(4)	.....	.....	.....	.....	.....	.....	.....
Soils	2(4)	2(4)	.....	.....	.....	.....	.....	.....
Fruit Growing	.....	3(2)	3(2)	.....	.....	.....	.....	.....
Architectural Drawing	.....	.....	.....	.....	.....	(4)	.....	.....
Descriptive Geometry	.....	.....	.....	.....	.....	3(4)	3(4)	3(4)
Mechanics	.....	.....	.....	.....	.....	3	3	3
Shopwork	.....	.....	.....	.....	.....	.....	(4)	.....
Elementary Electricity	.....	.....	.....	.....	.....	.....	.....	2
THIRD TERM.								
Mathematics	.....	.....	.....	.....	.....	5	5	5
Literature	3	3	3	3	3	5(2)	3	3
German	5(1)	5(1)	5(1)	5(1)	5(1)	5(1)	5(1)	5(1)
French	.....	.....	.....	3	3	.....	.....	.....
Latin	.....	.....	.....	.....	3	.....	.....	.....
Chemistry	3(4)	3(4)	3(4)	5(6)	3(4)	3(4)	3(4)	3(4)
Zoology	.....	.....	2(2)	2(2)	2(2)	.....	.....	.....
Entomology	2(2)	2(2)	2(2)	.....	.....	.....	.....	.....
Fertilizers	2(2)	.....	.....	.....	.....	.....	.....	.....

SOPHOMORE YEAR.	Agricult.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
Farm Drainage and Farm Crops	2(4)	2(4)	2(4)	.....	.....	.....	.....	.....
Vegetable Gardening	.....	2(4)	.....	.....	.....	.....	.....	.....
Descriptive Geometry	.....	.....	.....	.....	.....	3(4)	3(4)	3(4)
Surveying	2(4)	2(4)	2(4)	2(4)	2(4)	.....	.....	.....
Shopwork	.....	.....	.....	.....	.....	.....	(8)	(4)
Elementary Electricity	.....	.....	.....	.....	.....	.....	.....	2

JUNIOR YEAR.	Agronomy	An. Husb.	Horticult.	Chemical	Biological	Civil Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.								
Analytical Geometry..	.....	.....	.....	.....	.....	5	5	5
English Composition ..	1	1	1	1	1	1	1	1
*English Literature ...	.....	.....	3	.....	*3	.....	.....	.....
German Translation ..	3	3	3	3	3	3	3	3
Physics	.....	.....	.....	4(4)	4(4)	4(4)	4(4)	4(4)
Organic Chemistry ...	3	3	3	3	3	.....	.....	.....
Qualitative Analysis ..	1(6)	1(6)	1(6)	1(12)	1(6)	.....	.....	.....
Inorganic Preparations	.....	.....	.....	(4)	.....	.....	.....	.....
Theoretical Chemisty..	.....	.....	.....	2	.....	.....	.....	.....
Zoology	.....	3(3)	.....	.....	3(6)	.....	.....	.....
*Systematic Entom....	.....	.....	.....	.....	*2(4)	.....	.....	.....
Botany	.....	.....	1(3)	.....	.....	.....	.....	.....
Soils	2(2)	2(2)	2(2)	.....	.....	.....	.....	.....
Breeds and Scoring...	3(4)	3(4)	.....	.....	.....	.....	.....	.....
Principles of Breeding	3	3	.....	.....	.....	.....	.....	.....
Pomology	2(2)	.....	2(2)	.....	.....	.....	.....	.....
Suveying	.....	.....	.....	.....	.....	3(5)	.....	.....
Topog. Drawing.....	.....	.....	.....	.....	.....	(6)	.....	.....
Machine Design	.....	.....	.....	.....	.....	.....	2(4)	2(4)
Machine Work	.....	.....	.....	.....	.....	.....	(6)	(4)
Steam Engines	.....	.....	.....	.....	.....	.....	4	.....
Dynamos	.....	.....	.....	.....	.....	.....	.....	3
Electrical Laboratory..	.....	.....	.....	.....	.....	.....	.....	(4)
SECOND TERM.								
Calculus	.....	.....	.....	.....	.....	5	5	5
English Composition .	1	1	1	1	1	1	1	1
English Literature	.....	.....	2	.....	*2	.....	.....	.....
Civics	3	3	3	3	3	3	3	3
German Translation ..	3	3	3	3	3	3	3	3
Physics	.....	.....	.....	4(4)	4(4)	4(4)	4(4)	4(4)
Quantitative Analysis..	1(4)	1(4)	.....	1(12)	1(4)	.....	.....	.....
Mineralogy	1(4)	.....	.....	1(4)	1(4)	.....	.....	.....
Organic Chemistry....	.....	3	.....	3	.....	.....	.....	.....
Anatomy and Physiol.	.....	3(6)	.....	.....	3(6)	.....	.....	.....
Botany	.....	.....	(8)	.....	.....	.....	.....	.....
Farm Crops	2(2)	.....	.....	.....	.....	.....	.....	.....
Soils	3(4)	3(4)	3(4)	.....	.....	.....	.....	.....
Live Stock Managem't	2	2	.....	.....	.....	.....	.....	.....
Pomology	2(2)	.....	2(2)	.....	.....	.....	.....	.....
Floriculture	.....	.....	3(2)	.....	.....	.....	.....	.....
Surveying	.....	.....	.....	.....	.....	3(2)	.....	.....
Topog. Drawing.....	.....	.....	.....	.....	.....	(6)	.....	.....
Machine Design	.....	.....	.....	.....	.....	.....	2(4)	.....
Machine Work	.....	.....	.....	.....	.....	(4)	(6)	.....
Dynamos	.....	.....	.....	.....	.....	.....	.....	3
Electrical Laboratory.	.....	.....	.....	.....	.....	.....	.....	(4)
Elec. Machine Design.	.....	.....	.....	.....	.....	.....	.....	(2)

JUNIOR YEAR.	Agronomy	An. Husb.	Horticult.	Chemical	Biological	Civil Eng.	Mech. Eng.	Elec. Eng.
THIRD TERM.								
Calculus	.....	.....	.....	.....	.....	5	5	5
English Composition.	1	1	1	1	1	1	1	1
Civics	3	3	3	3	3	3	3	3
Logic	.....	.....	.....	.....	*3	.....	.....	.....
German Translation	3	3	3	3	3	3	3	3
Physics	.....	.....	.....	4(4)	4(4)	4(4)	4(4)	4(4)
Quantitative Analysis.	1(4)	1(4)	.....	.....	1(4)	.....	.....	.....
Organic Chemistry	.....	3	.....	3	.....	.....	.....	.....
Volumetric Analysis.	.....	.....	.....	2(16)	.....	.....	.....	.....
Systematic Entomology	.....	.....	.....	.....	*2(4)	.....	.....	.....
Economic Entomology	.....	.....	2(4)	.....	2(4)	.....	.....	.....
Botany	2(4)	.....	2(4)	.....	2(4)	.....	.....	.....
Farm Crops	2(4)	.....	.....	.....	.....	.....	.....	.....
Farm Drainage	2(2)	2(2)	2(2)	.....	.....	.....	.....	.....
Live Stock Managem't	.....	2(2)	.....	.....	.....	.....	.....	.....
Dairying	.....	3(4)	.....	.....	.....	.....	.....	.....
Olericulture	2(3)	.....	2(3)	.....	.....	.....	.....	.....
Floriculture	.....	.....	3(2)	.....	.....	.....	.....	.....
Research	.....	(2)	(2)	.....	.....	.....	.....	.....
Surveying	.....	.....	.....	.....	.....	2(4)	.....	.....
Topog. Drawing	.....	.....	.....	.....	.....	(4)	.....	.....
Railway Engineering	.....	.....	.....	.....	.....	2	.....	.....
Machine Design	.....	.....	.....	.....	.....	.....	2(4)	.....
Machine Work	.....	.....	.....	.....	.....	.....	(6)	.....
Dynamos	.....	.....	.....	.....	.....	.....	.....	3
Electrical Laboratory	.....	.....	.....	.....	.....	.....	.....	(4)
Elec. Machine Design	.....	.....	.....	.....	.....	.....	.....	(4)

*Biological students take English Literature in the First and Second Terms instead of Systematic Entomology, if they expect to pursue Botanical Courses the next year.

SENIOR YEAR.	Agronomy	An. Husb.	Horticult.	Chemical	Biological	Civil Eng.	Mech. Eng.
FIRST TERM.							
English Classics	4	4	*4		4		
Psychology	4	*4	4		4		
English Composition	1	1	1	1	1	1	1
Political Economy	3	3	3	3	3	3	3
Scientific German	4	*4	*4	4	4	4	4
Organic Chemistry				3			
Agricultural Chemistry	3	3	3	3			
Agricultural Analysis				(20)			
Quantitative Analysis	(4)	(4)					
Electives in Botany or Entomology					†13		
Botany			2(2)				
Plant Production	3(4)						
Stock Judging		(4)					
Herd Book		2(2)					
Systematic Pomology			2(2)				
Landscape Gardening			2(2)				
Research and Thesis	(2)	(2)	(4)				
Graphic Statics						4	4
Structural Design						2(4)	
Strength of Materials						4	4
Railway Engineering						2	
Field Engineering						(8)	
Machine Design							2(4)
Machine Work							(8)
SECOND TERM.							
English Classics	4				4		
English Composition	1	1	1	1	1	1	1
Political Economy	4	4	4	4	4	4	4
*Scientific German				4	*4	*4	*4
*French					*5	*5	*5
Organic Preparations				(16)			
Industrial, Physical & Electrical Chemistry				6(4)			
Electives in Botany or Entomology					†13		
Veterinary Science		4(6)					
Vegetable Pathology	2(4)		(2(4)				
Fertilizers	3(4)						
Animal Nutrition		4					
Farm Forestry	3	3	3		*3		
Greenhouse Construc			1(3)				
Plant Breeding	2		2		2		
Landscape Gardening			2(2)				
Research and Thesis	2(4)	2(4)	(4)				‡

Electrical and General Courses will be outlined when required.

SENIOR YEAR.	Agronomy	An. Husb.	Horticult.	Chemical	Biological	Civil Eng.	Mech. Eng.
Wood Technology	.....	.....	.....	.....	.....	1	1
Structural Design	.....	.....	.....	.....	.....	2(4)	.....
Hydraulics	.....	.....	.....	.....	.....	5	.....
Field Engineering	.....	.....	.....	.....	.....	(8)	.....
Power Plants	.....	.....	.....	.....	.....	.....	3
Machine Design	.....	.....	.....	.....	.....	.....	2(4)
Machine Work	.....	.....	.....	.....	.....	.....	(8)
THIRD TERM.							
English Classics	4	.....	.....	.....	4	.....	.....
English Composition..	1	1	1	1	1	1	1
Current Topics	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)
Business Law	4	4	4	4	4	4	4
Scientific German	.....	.....	.....	4	*4	*4	*4
French	.....	.....	.....	.....	*4	*4	*4
Industrial, Physical & Electrical Chemistry	.....	.....	.....	5	.....	.....	.....
Electives in Botany or Entomology	.....	.....	.....	.....	†13	.....	.....
Farm Machinery	2(4)	.....	(4)	.....	.....	.....	.....
Farm Management ...	2	2	.....	.....	.....	.....	.....
Crop Production or Soils	2(4)	.....	.....	.....	.....	.....	.....
Animal Nutrition	.....	4(4)	.....	.....	.....	.....	.....
Systematic Pomology.	.....	.....	2(2)	.....	.....	.....	.....
Small Fruits	.....	2(2)	2(2)	.....	.....	.....	.....
Fruit Harvesting	.....	.....	2	.....	.....	.....	.....
Plant Breeding	2	.....	2	.....	.....	.....	.....
Research and Thesis..	2(4)	4(4)	(8)	(20)	.....	.....	‡
Structural Design	.....	.....	.....	.....	.....	2(4)	.....
Highway Engineering.	.....	.....	.....	.....	.....	3	.....
Field Engineering.....	.....	.....	.....	.....	.....	(12)	.....
Estimates of Cost....	.....	.....	.....	.....	.....	1	.....
Machine Design	.....	.....	.....	.....	.....	.....	2(4)
Machine Work	.....	.....	.....	.....	.....	.....	(8)
Experimental Engin..	.....	.....	.....	.....	.....	.....	3(3)

*Animal Husbandry students take either Psychology or German; Horticultural students take either English Classics or German; Engineering and General Science students take either French or German; Forestry is also elective in General Science course.

†See description of course; the 13 periods per week includes much practical work. ‡As required.

SYNOPSIS OF NEW ADVANCED COURSES,

FOR ADOPTION AFTER 1910.

FRESHMAN YEAR.	Agronomy	An. Husb.	Horticult.	Biological	Chemical	General	Civ. Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.									
Trigonometry	3	3	3	3	3	3	3	3	3
Solid Geometry	.....	.....	.....	.....	2	2	2	2	2
English	5	5	5	5	5	5	5	5	5
Oratory	1	1	1	1	1	1	1	1	1
Practical English	.....	.....	.....	.....	(2)	(2)	.....	.....	.....
History or Latin	3	3	3	3	3	3	3	3	3
Language	3	3	3	3	3	3	3	3	3
Geology	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	.....	.....
Stock Judging	1(4)	1(4)	1(4)	1(4)	.....	.....	.....	.....	.....
Drawing. F. H.	(4)	(4)	(4)	(4)	(4)	(4)	(6)	(6)	(6)
Woodwork	.....	.....	.....	.....	.....	.....	.....	(6)	(6)
Technical Instruction	.....	.....	.....	.....	.....	.....	.....	2	2
SECOND TERM.									
Plane Trigonometry	3	3	3	3	3	3	3	3	3
Solid Geometry	.....	.....	.....	.....	2	2	2	2	2
English	5	5	5	5	5	5	5	5	5
Elocution	1	1	1	1	1	1	1	1	1
Practical English	.....	.....	.....	.....	(2)	(2)	.....	.....	.....
History or Latin	3	3	3	3	3	3	3	3	3
Language	3	3	3	3	3	3	3	3	3
Zoology	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	.....	.....	.....
Plant Prop.	(6)	(6)	(6)	(6)	.....	.....	.....	.....	.....
Drawing, Mech.	(4)	(4)	(4)	(4)	(4)	(4)	(6)	(6)	(6)
Woodwork	.....	.....	.....	.....	.....	.....	(6)	(6)	(6)
Elem. Mech.	.....	.....	.....	.....	.....	.....	2	2	2
THIRD TERM.									
Spherical Trigonom.	.....	.....	.....	.....	.....	.....	2	2	2
Analytics	.....	.....	.....	.....	.....	3	3	3	3
English	5	5	5	5	5	5	5	5	5
Oratory	1	1	1	1	1	1	1	1	1
History or Latin	3	3	3	3	3	3	3	3	3
Language	3	3	3	3	3	3	3	3	3
Botany	2(4)	2(4)	2(4)	2(4)	2(4)	2(4)	.....	.....	.....
Farm Crops	2(4)	2(4)	2(4)	2(4)	2(4)	.....	.....	.....	.....
Drawing, Mech.	.....	.....	.....	.....	.....	.....	(4)	(5)	(4)
Woodwork	(4)	(4)	(4)	(4)	(4)	(4)	.....	(6)	.....
Elem. Mech.	.....	.....	.....	.....	.....	.....	2	2	2
Surveying	2(4)	2(4)	2(4)	2(4)	2(4)	2(4)	2(4)	.....	2(4)

SOPHOMORE YEAR.	Agronomy	An. Husb.	Horticult.	Biological	Chemical	General	Civ. Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.									
Analytics	.....	.....	.....	.....	.....	.....	5	5	5
Eng. Comp.	1	1	1	1	1	1	1	1	1
Elocution	1	1	1	1	1	1	1	1	1
Literature	3	3	3	3	3	3	.....	.....	.....
Language	3	3	3	3	3	7	3	3	3
Physics	.....	.....	.....	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)
Chemistry	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)	4(2)
Zoology	.....	.....	.....	2(2)	2(2)	2(2)	.....	.....	.....
Plant Histology	1(6)	1(6)	1(6)	1(6)	1(6)	.....	.....	.....	.....
Live Stock Managem't	2(4)	2(4)	.....	.....	.....	.....	.....	.....	.....
Soils	2(4)	2(4)	2(4)	.....	.....	.....	.....	.....	.....
Fruit Growing	.....	.....	2(4)	.....	.....	.....	.....	.....	.....
Descriptive Geom.	.....	.....	.....	.....	.....	.....	(6)	(6)	(6)
Surveying	.....	.....	.....	.....	.....	.....	(4)	.....	.....
Elementary Elec.	.....	.....	.....	.....	.....	.....	.....	.....	2
Shop Work	.....	.....	.....	.....	.....	.....	.....	(4)	.....
SECOND TERM.									
Advanced Algebra	.....	.....	.....	.....	.....	.....	3	3	3
Calculus	.....	.....	.....	.....	.....	.....	2	2	2
English Composition	1	1	1	1	1	1	1	1	1
Literature	3	3	3	3	3	3	.....	.....	.....
Elocution	1	1	1	1	1	1	.....	.....	.....
Language	3	3	3	3	3	7	3	3	3
Physics	.....	.....	.....	3(2)	3(2)	3(2)	3(2)	3(2)	3(2)
Chemistry	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)
Zoology	.....	.....	.....	2(4)	2(4)	2(4)	.....	.....	.....
Plant Physiology	2(4)	2(4)	2(4)	2(4)	2(4)	.....	.....	.....	.....
Farm Buildings	1(4)	1(4)	.....	.....	.....	.....	.....	.....	.....
Soils	2(4)	2(4)	2(4)	.....	.....	.....	.....	.....	.....
Fruit Growing	.....	.....	2(4)	.....	.....	.....	.....	.....	.....
Descriptive Geom.	.....	.....	.....	.....	.....	.....	2(4)	2(4)	2(4)
Shop Work	.....	.....	.....	.....	.....	.....	.....	(8)	.....
Surveying	.....	.....	.....	.....	.....	.....	3	.....	.....
Elementary Elec.	.....	.....	.....	.....	.....	.....	.....	.....	3

SOPHOMORE YEAR.	Agronomy	An. Husb.	Horticult.	Biology	Chemical	General	Civ. Eng.	Mech. Eng.	Elec. Eng.
THIRD TERM.									
Calculus	.....	.....	.....	.....	.....	.....	5	5	5
English Composition	1	1	1	1	1	1	1	1	1
Literature	3	3	3	3	3	3	.....	.....	.....
Elocution	1	1	1	1	1	1	.....	.....	.....
Language	3	3	3	3	3	7	3	3	3
Physics	.....	.....	.....	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)
Chemistry	3(4)	3(4)	3(4)	3(4)	5(8)	3(4)	3(4)	3(4)	3(4)
Zoology	.....	.....	.....	2(2)	2(2)	2(2)	.....	.....	.....
Insect Pests	2(4)	2(4)	2(4)	2(4)	.....	.....	.....	.....	.....
Fertilizers	2(4)	2(4)	.....	.....	.....	.....	.....	.....	.....
Farm Drainage	2(4)	2(4)	2(4)	.....	.....	.....	.....	.....	.....
Vegetable Gardening	.....	.....	2(4)	.....	.....	.....	.....	.....	.....
Descriptive Geom.	.....	.....	.....	.....	.....	.....	2(2)	2(4)	2(2)
Shop Work	.....	.....	.....	.....	.....	.....	.....	(4)	.....
Surveying	.....	.....	.....	.....	.....	.....	1(4)	.....	.....
Elementary Elec.	.....	.....	.....	.....	.....	.....	.....	.....	3

JUNIOR YEAR.	Agronomy	Agricult.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.									
Calculus	.....	.....	.....	.....	.....	.....	5	5	5
English Composition	1	1	1	1	1	1	1	1	1
Literature	3	3	3	3	3	3	3	3	3
Advanced English	.....	.....	.....	.....	.....	4*	.....	.....	.....
Oratory	.....	.....	.....	.....	.....	4*	.....	.....	.....
Civics	3	3	3	3	3	3	3	3	3
Language	3	3	3	3	3	7	.....	.....	.....
Chemistry, Organic	3	3	3	3	3	3	.....	.....	.....
Inorganic Prep.	.....	.....	.....	.....	(4)	(4)*	.....	.....	.....
Theoretical Chem.	.....	.....	.....	.....	2	2*	.....	.....	.....
Qualitative Analysis	1(6)	1(6)	1(6)	1(6)	1(12)	1(6)	.....	.....	.....
Economic Entomology	.....	.....	2(4)	2(4)	.....	2(4)*	.....	.....	.....
Plant Morphology	.....	.....	2(4)	2(4)	.....	2(4)*	.....	.....	.....
Farm Management	2	.....	.....	.....	.....	.....	.....	.....	.....
Plant Production	3(4)	.....	.....	.....	.....	.....	.....	.....	.....
Principles of Breeding	.....	3	.....	.....	.....	.....	.....	.....	.....
Breeds and Scoring	.....	1(6)	.....	.....	.....	.....	.....	.....	.....
Steam Engines	.....	.....	.....	.....	.....	.....	3	3	3
Machine Work	.....	.....	.....	.....	.....	.....	.....	(6)	(6)
Machine Design	.....	.....	.....	.....	.....	.....	.....	2(4)	.....
Surveying	.....	.....	.....	.....	.....	.....	4(4)	.....	.....
Top. Drawing	.....	.....	.....	.....	.....	.....	(8)	.....	.....
Dynamos	.....	.....	.....	.....	.....	.....	.....	3	3
Elec. Lab.	.....	.....	.....	.....	.....	.....	.....	.....	(8)
SECOND TERM.									
English Composition	1	1	1	1	1	1	1	1	1
Literature	3	3	3	3	3	3	3	3	3
Advanced English	.....	.....	.....	.....	.....	4*	.....	.....	.....
Oratory	.....	.....	.....	.....	.....	4*	.....	.....	.....
Civics	3	3	3	3	3	3	3	3	3
Language	3	3	3	3	3	7	.....	.....	.....
Chem., Quant	1(4)	1(4)*	.....	1(4)	1(10)	1(4)*	.....	.....	.....
Organic Chem.	.....	.....	.....	.....	3	3*	.....	.....	.....
Mineralogy	.....	.....	.....	.....	1(2)	1(2)*	1(2)	.....	.....
Economic Plants	2(4)	.....	2(4)	2(4)	.....	.....	.....	.....	.....
Zoology	.....	2(4)*	.....	2(4)	.....	2(4)*	.....	.....	.....
Bacteriology	2(4)	2(4)	.....	2(4)*	2(4)	2(4)*	.....	.....	.....
Systematic Entomol'gy	.....	.....	.....	2(4)*	.....	.....	.....	.....	.....
Anat. & Phys.	3	3	.....	.....	.....	.....	.....	.....	.....
Animal Nutrition	.....	4	.....	.....	.....	.....	.....	.....	.....
Greenhouse Constr'n	.....	.....	2(4)	.....	.....	.....	.....	.....	.....
Floriculture	.....	.....	3(4)	.....	.....	.....	.....	.....	.....
Structural Design	.....	.....	.....	.....	.....	.....	2(4)	.....	.....
Mech. of Materials	.....	.....	.....	.....	.....	.....	3	3	3
Machine Design	.....	.....	.....	.....	.....	.....	.....	2(4)	(4)

JUNIOR YEAR.	Agronomy	Agricult.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec Eng.
Machine Work	.....	.....	.....	.....	.....	.....	.....	(6)	(6)
Statics	.....	.....	.....	.....	.....	.....	4	4	4
Top. Drawing	.....	.....	.....	.....	.....	.....	(8)	.....	.....
Computing	.....	.....	.....	.....	.....	.....	(2)	.....	.....
Dynamos	.....	.....	.....	.....	.....	.....	.....	4	4
Elec. Lab.	.....	.....	.....	.....	.....	.....	.....	.....	(4)
THIRD TERM.									
English Composition	1	1	1	1	1	1	1	1	1
Literature	3	3	3	3	3	3	3	3	3
Advanced English	.....	.....	.....	.....	.....	4*	.....	.....	.....
Oratory	.....	.....	.....	.....	.....	4*	.....	.....	.....
Civics	3	3	3	3	3	3	3	3	3
Language	3	3	3	3	3	7	.....	.....	.....
Quant. Analysis	1(4)	1(6)*	.....	1(4)	.....	1(4)*	.....	.....	.....
Organic Chem.	.....	.....	.....	.....	3	.....	.....	.....	.....
Volumetric Analysis	.....	.....	.....	.....	2(12)	2(4)*	.....	.....	.....
Zoology	.....	2(4)*	.....	2(4)	.....	2(4)*	.....	.....	.....
Farm Machinery	2(4)	2	2(4)	.....	.....	.....	.....	.....	.....
Plant Pathology	2(4)	.....	2(4)	2(4)	.....	.....	.....	.....	.....
Dairying	3	3(4)	.....	.....	.....	.....	.....	.....	.....
Feeds and Feeding	.....	3(2)	.....	.....	.....	.....	.....	.....	.....
Small Fruits	.....	.....	2(2)	.....	.....	.....	.....	.....	.....
Floriculture	.....	.....	3(2)	.....	.....	.....	.....	.....	.....
Micro. Botany	.....	.....	.....	2(4)*	2(4)	2(4)*	.....	.....	.....
Botany or Systematic	.....	.....	.....	2(4)*	.....	.....	.....	.....	.....
Mech. of Materials	.....	.....	.....	.....	.....	.....	5	5	5
Structural Design	.....	.....	.....	.....	.....	.....	2(4)	.....	.....
Machine Design	.....	.....	.....	.....	.....	.....	.....	2(8)	(4)
Machine Work	.....	.....	.....	.....	.....	.....	.....	(8)	(4)
Railway Eng.	.....	.....	.....	.....	.....	.....	2	.....	2
Top. Drawing	.....	.....	.....	.....	.....	.....	(4)	.....	.....
Field Work	.....	.....	.....	.....	.....	.....	(8)	.....	.....
Computing	.....	.....	.....	.....	.....	.....	(2)	.....	.....
Dynamos	.....	.....	.....	.....	.....	.....	.....	3	3
Elec. Lab.	.....	.....	.....	.....	.....	.....	.....	.....	(4)
Batteries	.....	.....	.....	.....	.....	.....	.....	.....	2
Research and Thesis	(2)	.....	.....	.....	.....	.....	.....	.....	.....

SENIOR YEAR:	Agronomy	An. Husb.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
FIRST TERM.									
Least Squares	.....	.....	.....	.....	.....	.....	.....	4*	.....
English Comp.	1	1	1	1	1	1	1	1	1
Advanced English	.....	.....	.....	.....	.....	4	.....	.....	.....
Psychology	4	4	4	4	4	4	.....	4*	.....
Economics	4	4	4	4	4	4	4	4	4
Advanced Economics	.....	.....	.....	.....	.....	4*	.....	.....	.....
Advanced Civics	.....	.....	.....	.....	.....	4*	.....	.....	.....
French or Latin	.....	.....	.....	.....	.....	4	.....	.....	.....
Advanced German	.....	.....	.....	.....	.....	4	.....	4*	.....
Agricul. Chem.	5*	5*	.....	.....	5	5(6)*	.....	.....	.....
Quant. Anal.	(4)	(4)	.....	.....	.....	.....	.....	.....	.....
Plant Production	3(4)	.....	.....	.....	.....	.....	.....	.....	.....
Farm Management	2(2)	.....	.....	.....	.....	.....	.....	.....	.....
Fruit Harvesting	4(2)*	.....	4(2)	.....	.....	.....	.....	.....	.....
Poultry	.....	2	.....	.....	.....	.....	.....	.....	.....
Stock Judging	.....	(4)	.....	.....	.....	.....	.....	.....	.....
Feeds and Feeding	.....	2(2)	.....	.....	.....	.....	.....	.....	.....
Dairying	.....	1(8)*	.....	.....	.....	.....	.....	.....	.....
Agricul. Analysis	.....	.....	.....	.....	(20)	.....	.....	.....	.....
Systematic Pomology	.....	.....	4(4)	.....	.....	.....	.....	.....	.....
Landscape Gardening	.....	.....	2(2)	.....	.....	.....	.....	.....	.....
Botany or Systematic Entomology	.....	.....	.....	5(10)	.....	.....	.....	.....	.....
†Electives	.....	.....	.....	3(6)	.....	.....	.....	.....	.....
Structural Design	.....	.....	.....	.....	.....	.....	2(4)	2(4)	.....
Mech. of Engineering	.....	.....	.....	.....	.....	.....	3	3	.....
Thermo-dynamics	.....	.....	.....	.....	.....	.....	.....	3	3
Heat. & Ventilating	.....	.....	.....	.....	.....	.....	.....	2	.....
Experimental Engin.	.....	.....	.....	.....	.....	.....	.....	(8)	.....
Hydraulics	.....	.....	.....	.....	.....	.....	3	.....	3
Highways	.....	.....	.....	.....	.....	.....	3	.....	.....
Railway Engineering	.....	.....	.....	.....	.....	.....	2	.....	.....
Field Engineering	.....	.....	.....	.....	.....	.....	(10)	.....	.....
Alternators	.....	.....	.....	.....	.....	.....	.....	.....	4
Elec. Lights	.....	.....	.....	.....	.....	.....	.....	.....	2
A. C. Laboratory	.....	.....	.....	.....	.....	.....	.....	.....	(8)
Research and Thesis	(2(	(4)	(4)	.....	.....	.....	.....	.....	(8)
SECOND TERM.									
English Composition	1	1	1	1	1	1	1	1	1
Advanced English	.....	.....	.....	.....	.....	4	.....	.....	.....
Pedagogics	4	4	4	4	4	4	.....	.....	.....
Economics	4	4	4	4	4	4	4	4	4
Advanced Economics	.....	.....	.....	.....	.....	4*	.....	.....	.....
Advanced Civics	.....	.....	.....	.....	.....	4*	.....	.....	.....
French or Latin	.....	.....	.....	.....	.....	4	.....	.....	.....

SENIOR YEAR.	Agronomy	An. Husb.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
Advanced German	.....	.....	3	.....	.....	4*	.....	.....	.....
Organic Prep.	.....	.....	.....	.....	(16)	.....	.....	.....	.....
Ind., Phys., Elec., Che.	.....	.....	.....	.....	6(4)	6(4)*	.....	.....	.....
Bacteriology	(8)	(8)	.....	.....	.....	.....	.....	.....	.....
Farm Forestry	3(2)	3(2)	3(2)	.....	.....	.....	.....	.....	.....
Animal Diseases	5(6)	5(6)	.....	.....	.....	.....	.....	.....	.....
Citrus and Sub-Trop. Fruits	.....	.....	2	.....	.....	.....	.....	.....	.....
Entomology	.....	.....	2(4)	.....	.....	.....	.....	.....	.....
Botany or Systematic Entomology	.....	.....	.....	5(10)	.....	.....	.....	.....	.....
Electives	.....	.....	.....	3(6)	.....	.....	.....	.....	.....
Mech. of Engineering.	.....	.....	.....	.....	.....	.....	4	4	.....
Wood Technology	.....	.....	.....	.....	.....	.....	1	1	.....
Thermo-dynamics	.....	.....	.....	.....	.....	.....	.....	3	.....
Structural Design	.....	.....	.....	.....	.....	.....	.....	3(4)	.....
Experimental Engin.	.....	.....	.....	.....	.....	.....	.....	(8)	.....
Hydro-mechanics	.....	.....	.....	.....	.....	.....	.....	3	.....
Estimates of Cost	.....	.....	.....	.....	.....	.....	1(4)	.....	.....
Field Work	.....	.....	.....	.....	.....	.....	(14)	.....	.....
Hydraulics	.....	.....	.....	.....	.....	.....	5	.....	5
Tel. & Tel.	.....	.....	.....	.....	.....	.....	.....	.....	2
Elec. Lights	.....	.....	.....	.....	.....	.....	.....	.....	2
Alternators	.....	.....	.....	.....	.....	.....	.....	.....	3
A. C. Lab.	.....	.....	.....	.....	.....	.....	.....	.....	(4)
Research and Thesis	.....	.....	(6)	.....	.....	.....	.....	.....	(12)
THIRD TERM.									
English Composition.	1	1	1	1	1	1	1	1	1
Advanced English	.....	.....	.....	.....	.....	4	.....	.....	.....
Pedagogics	4	4	4	4	4	4	.....	.....	.....
Economics	4	4	4	4	4	4	4	4	4
Advanced Economics.	.....	.....	.....	.....	.....	4*	.....	.....	.....
Advanced Civics	.....	.....	.....	.....	.....	4*	.....	.....	.....
French or Latin	.....	.....	.....	.....	.....	4	.....	.....	.....
Advanced German	.....	.....	.....	.....	.....	4	4*	.....	.....
Ind., Phys., Elec., Che.	.....	.....	.....	.....	5(2)	5(6)*	.....	.....	.....
Iron Prod. or Soils.	3(4)	.....	.....	.....	.....	.....	.....	.....	.....
Plant Breeding	4(2)	.....	4(2)	.....	.....	.....	.....	.....	.....
Feeds and Feeding	.....	3(2)	.....	.....	.....	.....	.....	.....	.....
Stock Judging	.....	(4)	.....	.....	.....	.....	.....	.....	.....
Animal Parasites	.....	.....	4(2)	.....	.....	.....	.....	.....	.....
Landscape Gardening.	.....	.....	2(2)	.....	.....	.....	.....	.....	.....
Botany or Systematic Entomol.	.....	.....	.....	5(10)	.....	.....	.....	.....	.....
Electives	.....	.....	.....	3(6)	.....	.....	.....	.....	.....
Fruit Culture	.....	.....	2(2)	.....	.....	.....	.....	.....	.....

SENIOR YEAR.	Agronomy	An. Husb.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
Mech. of Engineering.	.....	.....	.....	.....	.....	.....	4	4	.....
Thermo-Dynamics.	.....	.....	.....	.....	.....	.....	.....	3	.....
Structural Design	.....	.....	.....	.....	.....	.....	.....	3(4)	.....
Experimental Engin.	.....	.....	.....	.....	.....	.....	.....	(5)	.....
Surveying	.....	.....	.....	.....	.....	.....	2(4)	.....	.....
Astronomy	.....	.....	.....	.....	.....	.....	4*	.....	.....
Tel. & Tel.	.....	.....	.....	.....	.....	.....	.....	.....	2
Elec. Railways	.....	.....	.....	.....	.....	.....	.....	.....	3
Alternators	.....	.....	.....	.....	.....	.....	.....	.....	5
Alternating Design	.....	.....	.....	.....	.....	.....	.....	.....	(6)
A. C. Lab.	.....	.....	.....	.....	.....	.....	.....	.....	(4)
Research and Thesis.	2(8)	4(4)	(6)	.....	(20)	.....	(16)	2(8)	(10)

*Courses marked with an asterisk are alternative.

†Biological students may elect the equivalent of the time named from the following courses: First Term—Agricultural Chemistry, Landscape Gardening, Dairying, or advanced courses in Physics, Zoology, Entomology, Botany, Languages, Horticulture, Agriculture. Second Term—Organic Chemistry, Forestry, Spaying, Experiment Station Methods, Scientific Illustrating, Greenhouse Management, Bacteriology, Animal Diseases, or advanced work in Economics, Botany, Zoology, Entomology and Languages. Third Term—Organic Chemistry, Farm Management, Farm Machinery, Plant Breeding, Landscape Gardening, Spraying, Greenhouse Management, Dairying, or advanced studies in Botany, Zoology, Entomology, Languages and Horticulture.

GENERAL INFORMATION.

REQUIREMENTS FOR ADMISSION

For admission to classes other than the Freshman, an examination is required. This examination is not a memory test, but is rather a series of questions offered with a view of ascertaining the applicant's general knowledge of the principles involved. Examinations for 1910 will be held at the College on Tuesday, September 14th, and Wednesday, September 15th. Morning sessions will begin at 9:30; afternoon sessions, at 1:00 o'clock. To candidates for admission to the Freshman class who have not a diploma, examinations will be offered in English grammar, composition and analysis, United States history, arithmetic complete and algebra complete.

Examinations for the Sub-Freshman class will be less rigid in English and history, with algebra required up to quadratics and arithmetic complete.

For entrance to the Preparatory class, the requirements are: English Grammar, elementary; arithmetic as far as percentage, a general knowledge of the facts of United States history, and geography.

Applicants who desire assignment to classes more advanced than the Freshman must be prepared to take an examination equivalent to that given at the College for promotion to the class they desire to enter. Experience has proved that it is almost impossible for a new student to succeed in the work of the mechanical course as a Sophomore; and such assignment will be made only upon the candidate presenting satisfactory evidence of proficiency in drawing and wood work.

Every applicant for admission to the College must bring satisfactory testimonials as to his character and scholarship from his former teacher. This will be absolutely insisted upon. No student need apply for entrance who cannot furnish such credentials.

Senior Year.	Agronomy	An. Husb.	Horticult.	Biological	Chemical	General	Civil Eng.	Mech. Eng.	Elec. Eng.
Mech. of Engineering	.....	.....	.....	.....	.....	.....	4	4	.....
Therm-Dynamics	.....	.....	.....	.....	.....	.....	.....	3	.....
Structural Design	.....	.....	.....	.....	.....	.....	.....	3(4)	.....
Experimental Engin.	.....	.....	.....	.....	.....	.....	.....	(5)	.....
Surveying	.....	.....	.....	.....	.....	.....	2(4)	.....	.....
Astronomy	.....	.....	.....	.....	.....	.....	4*	.....	.....
Tel. & Tel.	.....	.....	.....	.....	.....	.....	.....	.....	2
Elec. Railways	.....	.....	.....	.....	.....	.....	.....	.....	3
Alternators	.....	.....	.....	.....	.....	.....	.....	.....	5
Alternating Design	.....	.....	.....	.....	.....	.....	.....	.....	(6)
A. C. Lab.	.....	.....	.....	.....	.....	.....	.....	.....	(4)
Research and Thesis	2(8)	4(4)	(6)	.....	(20)	.....	(16)	2(8)	(10)

*Courses marked with an asterisk are alternative.

†Biological students may elect the equivalent of the time named from the following courses: First Term—Agricultural Chemistry, Landscape Gardening, Dairying, or advanced courses in Physics, Zoology, Entomology, Botany, Languages, Horticulture, Agriculture. Second Term—Organic Chemistry, Forestry, Spraying, Experiment Station Methods, Scientific Illustrating, Greenhouse Management, Bacteriology, Animal Diseases, or advanced work in Economics, Botany, Zoology, Entomology and Languages. Third Term—Organic Chemistry, Farm Management, Farm Machinery, Plant Breeding, Landscape Gardening, Spraying, Greenhouse Management, Dairying, or advanced studies in Botany, Zoology, Entomology, Languages and Horticulture.

GENERAL INFORMATION.

REQUIREMENTS FOR ADMISSION

For admission to classes other than the Freshman, an examination is required. This examination is not a memory test, but is rather a series of questions offered with a view of ascertaining the applicant's general knowledge of the principles involved. Examinations for 1910 will be held at the College on Tuesday, September 14th, and Wednesday, September 15th. Morning sessions will begin at 9:30; afternoon sessions, at 1:00 o'clock. To candidates for admission to the Freshman class who have not a diploma, examinations will be offered in English grammar, composition and analysis, United States history, arithmetic complete and algebra complete.

Examinations for the Sub-Freshman class will be less rigid in English and history, with algebra required up to quadratics and arithmetic complete.

For entrance to the Preparatory class, the requirements are: English Grammar, elementary; arithmetic as far as percentage, a general knowledge of the facts of United States history, and geography.

Applicants who desire assignment to classes more advanced than the Freshman must be prepared to take an examination equivalent to that given at the College for promotion to the class they desire to enter. Experience has proved that it is almost impossible for a new student to succeed in the work of the mechanical course as a Sophomore; and such assignment will be made only upon the candidate presenting satisfactory evidence of proficiency in drawing and wood work.

Every applicant for admission to the College must bring satisfactory testimonials as to his character and scholarship from his former teacher. **This will be absolutely insisted upon. No student need apply for entrance who cannot furnish such credentials.**

Students from newly acquired territory or any foreign country must have a guardian appointed with parental powers, with whom the President can deal in any case of emergency. Students who cannot speak English are undesirable, and are advised that satisfactory progress at this College on their part cannot be expected until they have familiarized themselves partly, at least, with the English language.

EXAMINATIONS AND PROMOTIONS

In order to pass from one class to the next higher a student is required to pass an examination in each study pursued by a mark of at least sixty per cent., and to have a combined mark in each branch (daily and examination) of at least seventy per cent. A failure in not more than one branch will enable a student to pass to the next class with condition in that study in which he has failed; but in every case the student is required to make good such failure during the next year. However, no student in the Engineering Courses will be promoted to the Junior Class, who is deficient in Sophomore mathematics.

For rules for military promotions see Military Department.

REPORTS

Detailed reports are sent to parents and guardians at the end of every quarter. These give the grade of the student in every branch of study, his attendance record, and his conduct record with comment by the President upon each item.

In addition to this, monthly reports are issued for October, November, January, February and April. These give general information as to scholarship, conduct, attendance and health, and call attention to deficiency in any one of these particulars.

GRADUATION AND DEGREES.

BACHELOR OF SCIENCE

As a requisite for graduation, the candidate for this degree must, in addition to having satisfactorily completed the work previously outlined, submit a thesis, which meets the approval of the Faculty.

The subject for this thesis must be approved by the head of the department in which the investigation is to be pursued prior to February 1st, and the thesis completed must be submitted not later than May 15th.

MASTER OF SCIENCE

The degree of Master of Science may be conferred by the Faculty as follows:

1. Upon students who have completed the undergraduate course, and in addition have pursued a successful course of graduate study for one year at this College, consisting of a major and two minor subjects, not more than one of which shall be taken in the same department of the College, and to occupy not less than thirty hours per week. The course of study to be outlined by the professor in charge of the major subject, and approved by the Faculty.

2. Upon college graduates of not less than two years' standing, who are employed in any of the departments of the College, and who have completed the equivalent of the above course of study. Candidates under this clause must have their applications approved by the Faculty eighteen months before they contemplate receiving their degree.

3. Upon graduates of this College of not less than three years' standing, who having been connected with institutions of learning or research, where adequate facilities for advanced work are available, have completed a course equivalent to (1) and who have passed the required examinations and have presented a satisfactory thesis.

MASTER OF ARTS

The degree of Master of Arts may be conferred upon graduates of this College holding the Bachelor of Arts degree, and who conform to the following rules:

1. The candidate must apply for the degree in writing at least one scholastic year before the degree will be conferred. The application must contain a description of the extra work, by virtue of which the candidate expects to receive the degree.

2. The candidate must submit one or more theses on subjects assigned by the Professor of English and Civics; said thesis or theses must be approved by the President of the College, the Professor of English and Civics and the Professor of Languages of this College.

3. The candidate must be prepared to submit to an examination in the works of the following authors: Cæsar, Nepos, Sallust, Virgil, Cicero, Ovid, Horace, Livy, Tacitus, Plautus, Terence, Juvenal.

MECHANICAL ENGINEER

The degree of Mechanical Engineer (M. E.) may be conferred by the Faculty as follows:

1. Upon graduates of this College of not less than three years' standing, who having been connected with institutions of learning or research, where adequate facilities for advanced work are available, have completed a course consisting of a major and two

minor subjects, and who have passed the required examination and presented a satisfactory thesis. (The course of study to be outlined by the heads of the Departments of Civil, Electrical and Mechanical Engineering, and approved by the Faculty).

2. Upon graduates of this College who have had three years' professional experience of an acceptable character. Such candidates must present to the Faculty a full report of such experience, and such other information as to the qualifications for the degree as may be found desirable, and in addition shall present a satisfactory thesis.

3. All candidates must at least be Junior members of the American Society of Mechanical Engineers. All applications for degrees must have the approval of the Faculty twelve months prior to the date they contemplate receiving the degree, and the thesis must be presented at least one month prior to such date.

CIVIL ENGINEER

The degree of Civil Engineer may be conferred upon any candidate who is a graduate of this College with the degree of Bachelor of Science in Civil Engineering, and has been engaged in engineering pursuits for not less than three years since graduation, provided:

1. That he shall be a member of the American Society of Civil Engineers.

2. That he shall accompany his application with a synopsis of the work upon which he bases his request.

3. That the Committee composed of the heads of the Civil, Electrical and Mechanical Engineering Departments, to whom his application shall be referred, shall consider him eligible.

4. That previous to receiving the degree he shall comply with such further conditions, if any, as the aforesaid committee shall impose.

SCHOLARSHIPS.

COMPETITIVE SCHOLARSHIPS

The College offers a number of scholarships—one for each sectional district of the State. These scholarships are awarded to the successful candidate in competitive examinations, conducted in Baltimore City, by the Superintendent of Public Instruction, and in the counties by the County School Superintendent. All scholarship students must be prepared for entrance to the Freshman class, and are required to take the regular entrance examination. Each scholarship is good for four years, or for such part thereof as the holder remains at the College. It is then again open for competition. The cost per year for scholarship students will be found under the head of "Student Expenses." The following is an extract from the requirements of the Board of Trustees, relating to scholarships:

"Persons holding certificates of scholarship must present themselves at the College, or other designated place, at the date which may be named in the September or January next following the award, and be examined by College authorities for entrance to the Freshman Class. Alternates are to be thus examined, as well as principals, and in case of a failure of the principal to secure or hold the scholarship, the alternate will have the first right to the place declared vacant, if within a year from date of the certificate of award.

"Persons holding certificates of scholarship must, in order to secure the same, pass the entrance examination of the College, and (if entering in January) such other examination as may be required to join the Freshman Class. To hold a scholarship, the student must make all payments promptly, and meet such requirements of the College as to scholarship and deportment as may be prescribed by the President and Faculty. By passing special examination, or by presenting satisfactory certificates, candidates for scholarship may be permitted to enter the Sophomore Class." A student who fails of promotion, thereby forfeits his scholarship and the School Board which granted such scholarship will be notified accordingly.

INDUSTRIAL SCHOLARSHIPS

There are also offered by the College a limited number of "Industrial Scholarships." The holder of such a scholarship is required to work as a waiter or janitor a definite number of hours alternate days; these hours are so arranged as to conflict as little as possible with his time for study or recitation.

In consideration of their work a rebate of $140 a year is granted each of these students.

A selection is made from applicants for these scholarships on the basis of mental preparation, physical ability and moral character. Preference will be given to the sons of citizens of Maryland. Applications for this scholarship specifying age, weight, mental advancement and enclosing testimonial of moral character must be made in writing to the President of the College prior to September 1st, and the successful applicants for this scholarship will be notified to report in person at the College in September.

STUDENT OPPORTUNITIES.

A limited amount of money can be earned by students by taking advantage of the opportunities arising from time to time to do clerical work, tutoring, and such other labor as may not interfere with regular scholastic duties. Those in need of help to continue their work, and whose course is marked by an earnest desire to succeed, are always given the preference.

FACILITIES FOR RELIGIOUS WORSHIP

The College is undenominational in character. The daily exercises of the College are opened with religious worship in the College Chapel.

Students are encouraged to attend the church of their choice on Sunday mornings. There is an Episcopal church at College Park; and at Berwyn, one mile north, and at Riverdale, one mile south, are Presbyterian churches. In Hyattsville, two miles south, may be found Catholic, Episcopal, Presbyterian, Baptist

and Methodist churches. In the city of Washington are churches of all denominations, and leave is granted to students to attend service in this city on Sunday mornings.

COLLEGE REGULATIONS.

The attention of parents is earnestly called to the following rules in force at this College: The College authorities can succeed in conferring the maximum amount of training upon the student only with and by the active support and earnest co-operation of the parent. The President of the College is always ready and willing to discuss any failures in a student's record with his parent or guardian, and correspondence on this subject is always welcome.

No student will be accepted as a matriculate until the contract card containing the following agreement for matriculation is signed by parent or guardian, and received by the President of the College:

"It is understood that the President of the College as the executive of the same, and acting for the Board of Trustees, a party to this contract, **has the right to ask the withdrawal of a student at any time, when in his judgment such withdrawal may be necessary either for the interest of the young man or the institution which he attends. It is further understood that a parent or guardian can at any time withdraw his son or ward, subject to regulations herein set forth.**"

A cadet manifesting an indifference to the observance of the rules and regulations of the institution, or wanting in proper attention to the preparation of his work, will be cautioned to improve in these particulars. Failing to do so his parents, upon notice given by the President, must withdraw their son.

A special pledge to refrain from what is popularly known as "hazing," and taking unfair means in examinations is required of every applicant for entrance, before he will be allowed to matriculate. Parents should impress upon their sons that failure

to live up to this pledge is a dishonor which unfits them to be longer students of the College. "Hazing" is invariably punished by instant dismissal.

Frequent absences from the College are invariably of great disadvantage to the student, in breaking in upon the continuity of his work, and in distracting his mind from the main purpose of his attendance at the institution. Parents are therefore earnestly asked to refrain from granting frequent requests to leave the College.

Students will not be permitted to leave classes or quarters during study hours to answer telephone calls, unless they are urgent.

Students will not be permitted to make contracts or to sell any article to their associates without the approval of the President.

The sale of second hand furniture or clothing to new cadets is prohibited unless the sale be approved by the commandant of cadets.

The College will not be responsible for articles left in the barracks during vacation, nor for valuables left by students in their rooms at any time. They should be deposited with the College Treasurer, who will place them in the College safe and give a receipt therefor.

RULES OF COMMITTEE ON COLLEGIATE ROUTINE, ENDORSED BY THE FACULTY.

1. A student may not change his course of study unless at the written request of his parent or guardian, and after said request has been endorsed by the dean of the course abandoned, and the dean of the course requested, and approved by this committee.

2. Examinations to make up conditions will be given only at times set apart by this committee. These dates will be just before the regular quarterly examinations in December, March and June; also the day before the resumption of college work in September. Notice of intention to take these examinations must be filed in writing with the chairman of the schedule committee at least 10 days before examinations commence. Should, for any reason, a special examination be requested at any other time, a charge of $2.00 will be made for each subject on which the applicant is examined.

3. To attain proficiency a student must make an examination grade of 60 per cent.; also a term average of 70 percent. In case of failure, upon re-examination, a grade of 70 per cent. is required.

4. A student may not be promoted if conditioned in more than one study.

5. A student may not be promoted if he has any conditions of more than a year outstanding.

6. No student may be promoted from the preparatory department with any condition.

7. Any student who uses unfair means in examination will (1) receive no further examination in same subject; (2) receive zero for examination grade; (3) receive no commission; (4) receive no diploma.

8. A student is subject to an oral examination at any time within ten days after written examination.

9. An examination paper, containing erasure or showing alterations, may be rejected at the discretion of the Professor in charge, and a new examination ordered by his committee.

10. In computing term averages, the daily grade is computed at 2, and the examination grade at 1.

11. The yearly average in all studies is computed by giving each subject a weight according to the mean number of hours per week involved; theoretical periods being given a value of 2, practical periods 1.

12. Senior students must submit subjects for graduating theses prior to February 1, and all theses for graduation must be completed prior to May 15.

13. No special courses are permitted save by consent of this committee. In case consent is granted for a special course, the certificate awarded attesting work will not have the College seal nor the Governor's signature.

14. No student may take work in more than one class during any one term.

STUDENT EXPENSES.

No charge is made to boarding students for tuition, books or diplomas. No reductions are made for regular vacations.

The expenses of the College year for the several classes of students are as follows:

BOARDING STUDENTS.—Board, heat, light, room, use of books, and laundry, $60.00 per quarter.

SCHOLARSHIP STUDENTS.—Board, heat, light, room, use of books, and laundry, $30.00 per quarter.

DAY STUDENTS.—Room, heat, tuition, and use of books, $12.50 per quarter.

SHORT WINTER COURSE STUDENTS.—Board, heat, light, room, and use of books, for the course, $40.00.

Students entering College after November 1st, or withdrawing prior to the close of the scholastic year, will be charged for the time they are here, as follows:

Boarding students at the rate of $30.00 per month.

Scholarship students at the rate of $15.00 per month.

Day students at the rate of $6.00 per month.

Students withdrawing more than two weeks after entrance, will be charged for at least one month's attendance.

Students withdrawing less than two weeks after entrance, will be charged at the rate of $2.00 per day.

Table board for students not rooming at the College will be $14.00 per month, or 25 cents per meal.

No diploma will be conferred upon, nor any certificate issued to any student who is in arrears in his account with the College.

TIME OF PAYMENT

For Boarding Students, $60.00 on entrance, $60.00 November 15th, $60.00 February 1st, $60.00 April 1st.

For Scholarship Students, $30.00 on entrance, $30.00 November 15th, $30.00 February 1st, $30.00 April 1st.

For Day Students, $12.50 on entrance, $12.50 November 15th, $12.50 February 1st, $12.50 April 1st.

Promptness of payment is essential, and must be made in advance, by order of the Board of Trustees.

FEES

No fees of any character will be charged by the College.

Students will be admitted free of cost to membership in the College Athletic Association.

Damage to College property by students will be promptly reported to parents or guardians and prompt payment expected.

All College property in the possession of the individual student, such as his room, furniture, books, apparatus and military equipment will be charged against him, and the parent or guardian must assume responsibility for its return without abuse, to the proper department at the end of each scholastic year, at which time the account will be cancelled. If abused, the cost of

4. A student may not be promoted if conditioned in more than one study.

5. A student may not be promoted if he has any conditions of more than a year outstanding.

6. No student may be promoted from the preparatory department with any condition.

7. Any student who uses unfair means in examination will (1) receive no further examination in same subject; (2) receive zero for examination grade; (3) receive no commission; (4) receive no diploma.

8. A student is subject to an oral examination at any time within ten days after written examination.

9. An examination paper, containing erasure or showing alterations, may be rejected at the discretion of the Professor in charge, and a new examination ordered by his committee.

10. In computing term averages, the daily grade is computed at 2, and the examination grade at 1.

11. The yearly average in all studies is computed by giving each subject a weight according to the mean number of hours per week involved; theoretical periods being given a value of 2, practical periods 1.

12. Senior students must submit subjects for graduating theses prior to February 1, and all theses for graduation must be completed prior to May 15.

13. No special courses are permitted save by consent of this committee. In case consent is granted for a special course, the certificate awarded attesting work will not have the College seal nor the Governor's signature.

14. No student may take work in more than one class during any one term.

STUDENT EXPENSES.

No charge is made to boarding students for tuition, books or diplomas. No reductions are made for regular vacations.

The expenses of the College year for the several classes of students are as follows:

BOARDING STUDENTS.—Board, heat, light, room, use of books, and laundry, $60.00 per quarter.

SCHOLARSHIP STUDENTS.—Board, heat, light, room, use of books, and laundry, $30.00 per quarter.

DAY STUDENTS.—Room, heat, tuition, and use of books, $12.50 per quarter.

SHORT WINTER COURSE STUDENTS.—Board, heat, light, room, and use of books, for the course, $40.00.

Students entering College after November 1st, or withdrawing prior to the close of the scholastic year, will be charged for the time they are here, as follows:

Boarding students at the rate of $30.00 per month.

Scholarship students at the rate of $15.00 per month.

Day students at the rate of $6.00 per month.

Students withdrawing more than two weeks after entrance, will be charged for at least one month's attendance.

Students withdrawing less than two weeks after entrance, will be charged at the rate of $2.00 per day.

Table board for students not rooming at the College will be $14.00 per month, or 25 cents per meal.

No diploma will be conferred upon, nor any certificate issued to any student who is in arrears in his account with the College.

TIME OF PAYMENT

For Boarding Students, $60.00 on entrance, $60.00 November 15th, $60.00 February 1st, $60.00 April 1st.

For Scholarship Students, $30.00 on entrance, $30.00 November 15th, $30.00 February 1st, $30.00 April 1st.

For Day Students, $12.50 on entrance, $12.50 November 15th, $12.50 February 1st, $12.50 April 1st.

Promptness of payment is essential, and must be made in advance, by order of the Board of Trustees.

FEES

No fees of any character will be charged by the College.

Students will be admitted free of cost to membership in the College Athletic Association.

Damage to College property by students will be promptly reported to parents or guardians and prompt payment expected.

All College property in the possession of the individual student, such as his room, furniture, books, apparatus and military equipment will be charged against him, and the parent or guardian must assume responsibility for its return without abuse, to the proper department at the end of each scholastic year, at which time the account will be cancelled. If abused, the cost of

replacing or repairing the abused article, must be paid by the parent or guardian.

Damage to College property in public places in the building and on the grounds by the student will be charged to the whole student body, pro rata, unless the offender is known. In such cases, the whole expense of repairing or replacing the damaged property will be charged to the parent or guardian of the offending party. The matriculation of a student is evidence of the acceptance of this regulation.

Coaching for backward students will be provided by the President upon application.

UNIFORM

Dress Uniform (coat, trousers and cap)	$15.60
Khaki Uniform (coat, trousers, hat and leggins)	5.50
Shirt and belt	1.25

Payments for uniforms must be made on delivery. This is required by the firm manufacturing them.

ARTICLES NECESSARY TO BE PROVIDED

All students are required to provide themselves with the following articles, to be brought from home or purchased from the College Park store on arrival:

1 dozen white standing collars.
6 pairs white gloves (uniform).
6 pairs white cuffs.
1 pair blankets (for single bed).
2 pairs sheets (for single bed).
2 white dimity bedspreads (three quarters size).
4 pillow cases.
1 chair (uniform).
6 towels.
1 pillow.
1 mattress (uniform).

*Price quoted on basis of last year's contract.

The room-mates together purchase the following articles:
2 table cloths (uniform).
2 clothes bags (uniform).
1 broom.

All the articles marked (uniform) in the foregoing list can best be purchased after the student arrives at the College. The cost of the entire list should not be more than $15.00 for the year. This should be paid to the Treasurer on entrance, as the College has no fund from which it can make advances, and failure to comply with this requirement will subject the student to much inconvenience. Any unexpended balance will be returned promptly.

STUDENT ORGANIZATIONS.

Students' clubs for religious, social, literary and athletic purposes are encouraged as a means of creating class and college pride, and developing an *esprit de corps* among the students. Each class has its own organization, in which matters relating to the class are discussed and directed. Officers are elected and the unity of the class preserved. This has been found to be a decided aid to discipline and tends to raise the standard of student honor.

YOUNG MEN'S CHRISTIAN ASSOCIATION

President, W. M. Aikenhead.
Vice-President, M. Koenig, Jr.
Secretary, F. J. Maxwell.
Treasurer, D. W. Glass.

Much encouraging work has been done by this organiztaion during the past year, and much interest has been shown in the meetings.

LITERARY SOCIETIES

These societies are invaluable adjuncts to college work. Through them a good knowledge of parliamentary law is gained,

as well as a readiness of expression and activity in thought, qualities particularly valuable to the American citizen.

The literary society work is under the general supervision of the Professor of Oratory, who is always ready to advise with the members in matters of parliamentary law and train them in the delivery of their orations and debates.

NEW MERCER SOCIETY.

President, E. N. Cory.
Treasurer, L. O. Jarrell.
Vice-President, F. H. Dryden.
Secretary, T. D. Jarrell.
Sergeant-at-Arms, A. C. Adams.

MORRILL SOCIETY.

President, P. E. Burroughs.
Vice-President, M. E. Tydings.
Secretary, H. M. Coster.
Treasurer, J. S. Gorsuch.

ROSSBOURG CLUB.

The social man is a necessity—hence this organization is encouraged and supported by the President and Faculty. The entertainments have been marked by a spirit which emphasizes the wisdom of its continuance and justifies its encouragement.

President, A. C. Turner.
Vice-President, J. S. Gorsuch.
Secretary, P. E. Burroughs.
Treasurer, E. N. Cory.

REVEILLE

The "Reveille" is the College annual, edited entirely by the Senior class. Twelve editions of the "Reveille" have appeared, and each has been characterized by a gratifying improvement in the standard both of originality and expression.

EDITORIAL STAFF, 1909.

Editor-in-Chief, W. R. Maslin.
Associate Editors, E. N. Cory, P. E. Burroughs.
Business Manager, J. Q. A. Holloway.
Associate Business Managers, H. M. Coster, T. D. Jarrell, J. S. Gorsuch.
Treasurer, A. C. Turner.

DEPARTMENT EDITORS.

Athletic, L. O. Jarrell.
Humorous, C. E. Tauszky.
Social, C. F. Mayer.
Class History, P. E. Burroughs.
Art, J. F. Allison.

STUDENT ATHLETIC ASSOCIATION

Membership in the Athletic Association is open to all students free of charge.

The object of the association is to foster athletic spirit, prevent indiscretion in athletic matters, and cooperate with the Athletic Council in the general management of all athletic affairs.

OFFICERS.

President, C. F. Mayer.
Vice-President, T. D. Jarrell.
Secretary, E. N. Cory.
Treasurer, C. E. Tauszky.

THE ORATORICAL ASSOCIATION OF MARYLAND COLLEGES

The Maryland Agricultural College is a member of this Association, which is composed of St. John's College, Washington College, Western Maryland College and Maryland Agricultural College. Contests are held annually at these colleges in rotation, and a marked improvement is to be observed as a result of its organization.

THE ALUMNI ASSOCIATION

"The Alumni Association is steadily growing in two ways; that is to say, recent graduates almost invariably become active members, and the graduates of the earlier days of the College are becoming more active and more interested in all that pertains to the welfare of their Alma Mater.

The Association has continued the offer of medals for worthy students in the several collegiate departments, and there is no doubt regarding the wisdom of stimulating in this way the energies of the students. The enrollment of the Alumni Association is now reaching a point where some definite accomplishment can be effected, and each individual should be ready to suggest a desirable project, at the same time to assist in the execution of that object which is most feasible and popular with the Association at large.

The entire institution as viewed from the Alumni standpoint is worthy of the confidence of its patrons and the public. Each of us should feel that every step in advance of that achieved in our day, should give us a feeling of pride, that it is in a manner the result of the successful completion of the work then offered, and should bind us more closely to the work of the present and the broadening of its future."

The officers for the year are: President, F. W. Besley, '92; Vice-President, A. S. Gill, '07; Secretary-Treasurer, T. B. Symons, '02; Executive Committee, members at large, J. Enos Ray, '92; S. H. Harding, '95.

Graduates and members of the association are requested to keep the Secretary-Treasurer, T. B. Symons, College Park, Md., informed of any changes in their addresses. Any information concerning the older graduates which will enable the officers to locate and communicate with them will facilitate their efforts and will tend to further the success of the Association.

CANDIDATES FOR DEGREES TO BE CONFERRED IN 1909, WITH SUBJECTS OF THESES.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

JOHN FRANKLIN ALLISON, WASHINGTON, D. C.

"Design of 100 H. P. Two Cylinder, Compound, Open Frame Marine Engine."

WILLIAM BOYLE, WASHINGTON, D. C.

"Design of a Self Sustaining Steel Chimney."

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

PERCIVAL ELLIOTT BURROUGHS, CROOM, MD.

JOHN QUINCY ADAMS HOLLOWAY, ROSARYVILLE, MD.

CHARLES WILLIAM ROWLAND MASLIN, PORT CHESTER, N. Y.

"Survey for Macadamizing College Avenue."

FRANCIS HENRY DRYDEN, POCOMOKE CITY, MD.

JAMES PHILIP GRIFFIN, HIGHLAND, MD.

CARROLL EDMUND TAUSZKY, BALTIMORE, MD.

"Location of a Spur Track from Balto. & Ohio R. R. to Maryland Agricultural College."

JAMES STANLEY GORSUCH, FORK, MD.

MARTIN KOENIG, JR., BALTIMORE, MD.

"Design of a 160 -Foot Highway Bridge (Pratt Truss, Pin Connected)."

CARL FERDINAND MAYER, FROSTBURG, MD.

BASIL DENNIS SPALDING, BEL AIR, MD.

"Location for the Proposed New Athletic Field for Maryland Agricultural College."

BACHELOR OF SCIENCE

ERNEST NEAL CORY, TAKOMA PARK, D. C.

"The Typhoid Fly and Some Near Relations."
(Flies common on Farm Premises.)

BACHELOR OF SCIENCE IN HORTICULTURE

LINWOOD ORRELL JARRELL, CREENSBORO, MD.

"The Comparison of Fall, Winter and Spring Grown Cabbage Plants for Early Market."

BACHELOR OF SCIENCE IN AGRICULTURE

JAMES EDWIN HASLUP, SAVAGE, MD.

"A Study of the Purposes and Effects of Condiments in Milk Production."

AUSTIN LEA STABLER, COLLEGE PARK, MD.

"Comparison of Correctives in Pig Feeding."

ALAN CLAUDE TURNER, SOLLERS, MD.

"Plans and Criticisms of Sanitary Dairy Barns."

HERBERT MARVIN COSTER, SOLOMONS, MD.

"Comparison of the Different Methods for the Determination of Phosphoric Acid."

TEMPLE DE ROCHBRUNE JARRELL, GREENSBORO, MD.

"Comparison of Different Methods for the Determination of Nitrogen."

CANDIDATE FOR CERTIFICATE—TWO-YEAR COURSE IN AGRICULTURE

RALPH HOEN, RICHMOND, VA.

MEDALS AND PRIZES AWARDED JUNE 10, 1908.

For excellence in the Agricultural Course; offered by the Alumni Association:

R. BRIGHAM, OF MARYLAND.

For excellence in the Mechanical Engineering Course; offered by the Alumni Association:

H. B. HOSHALL, OF MARYLAND.

For excellence in the Chemical Course; offered by the College:

L. B. BROUGHTON, OF MARYLAND.

For excellence in the Civil Engineering Course; offered by the College:

S. L. LOWREY, OF MARYLAND.

For excellence in the General Science Course; offered by the College:

F. E. RUMIG, OF PENNSYLVANIA.

For excellence in the Horticultural Course; offered by the College:

J. W. FIROR, OF MARYLAND.

For excellence in Debate; offered by the Alumni Association:

J. W. FIROR, OF MARYLAND.

The William Pinkney Whyte Medal for excellence in Oratory; offered by Isaac Lobe Straus, Esq.

M. E. TYDINGS, OF MARYLAND.

Winfield Scott Schley Prize for excellence in Oratory; offered by B. H. Warner, Esq.:

M. E. TYDINGS, OF MARYLAND.

MILITARY ORGANIZATION.

COMMANDANT OF CADETS.

Captain Edgar T. Conley, Fifteenth U. S. Infantry.

ARMORER AND ASSISTANT TO COMMANDANT.

Sergeant L. G. Smith, U. S. Army, (retired).

CADET BATTALION

FIELD, STAFF, AND NON-COMMISSIONED STAFF

Cadet Major, Carl F. Mayer.
First Lieutenant and Adjutant, John F. Allison.
First Lieutenant and Quartermaster, L. O. Jarrell.
Sergeant Major, J. P. Grason.
Quartermaster Sergeant, W. J. Frere.
Color Sergeant, F. J. Maxwell.

CADET BAND

First Lieutenant and Adjutant, Commanding, John M. Allison.
Principal Musician, M. Koenig.
Chief Trumpeter, J. L. Donaldson.
Drum Major, O. H. Saunders.
Corporal, P. R. Little.
Corporal, H. F. Mangum.
Corporal, Juan Jova.

COMPANY OFFICERS AND NON-COMMISSIONED OFFICERS

COMPANY A	COMPANY B	COMPANY C
CAPTAINS		
P. E. Burroughs.	J. S. Gorsuch.	T. D. Jarrell.

FIRST LIEUTENANTS

A C. Turner.	J. Q. A. Holloway.	F. H. Dryden.

SECOND LIEUTENANTS

W. R. Maslin.	E. N. Cory.	H. M. Coster.

THIRD LIEUTENANTS

B. D. Spalding.	J. E. Haslup	C. E. Tauszky.

FIRST SERGEANTS

G. E. Hamilton.	M. E. Tydings.	Chester Adams

SERGEANTS

H. H. Allen.	S. D. Gray.	J. W. Bauer.
J. W. Duckett.	T. R. Stanton.	H. L. Steffens.
W. P. Cole.	W. D. Munson.	M. H. Woolford.
	F. R. Ward.	E. H. Price.

CORPORALS

Thos. Davidson.	D. W. Glass.	J. O. Crapster.
L. MD. Silvester.	J. W. Kinghorne.	J. R. White.
R. B. Berry.	J. M. Burns.	E. A. Mudd.
L. H. Staley.	H. G. Otis.	F. M. White.

FIELD MUSIC

Paul Barrows. Chief Bugler.

Harry Sonnenberg.	Roy Beall.	Raymond Burch.
	Hugh Bierman.	

ROSTER OF MATRICULATES.

Session 1908-1909.

GRADUATE STUDENTS

NAME.	POST OFFICE.	COUNTY.
Broughton, L. B., B. S.,	College Park	Prince George
Hayman, E. T., B. S.,	Annapolis	Anne Arundel
Mackall, J. N., B. S.,	Baltimore	*Baltimore City*
Norman, A. J., B. S. A.	College Park	Prince George
Ruffner, R. H., B. S.,	College Park	Prince George
Silvester, R. L., B. S.,	College Park	Prince George

SENIOR CLASS

Allison, J. M. F.	Washington	*District of Columbia*
Boyle, W.	Washington	*District of Columbia*
Burroughs, P. E.	Croom	Prince George
Cory, E. N.	Takoma Park	*District of Columbia*
Coster, H. M.	Solomons	Calvert
Dryden, F. H.	Pocomoke City	Worcester
Dupuy, R. E.	Passamayo	*Peru*
Gorsuch, J. S.	Fork	Baltimore
Griffin, J. P.	Highland	Howard
Haslup, J. E.	Savage	Howard
Holloway, J. Q. A.	Rosaryville	Prince George
Jarrell, L. O.	Greensboro	Caroline
Jarrell, T. D.	Greensboro	Caroline
Koenig, M., Jr.	Baltimore	*Baltimore City*
McEnany, F. R.	Clear Spring	Washington
Maslin, W. R.	Port Chester	*New York*
Mayer, C. F.	Frostburg	Allegany
Spalding, B. D.	Churchville	Harford
Stabler, A. L.	Brighton	Montgomery
Tauszky, C. E.	Baltimore	*Baltimore City*
Turner, A. C.	Sollers	Calvert

JUNIOR CLASS

Adams, A. C.	Takoma Park	*District of Columbia*
Allen, H. H.	Towson	Baltimore

NAME.	POST OFFICE.	COUNTY.
BARROWS, P. R.	Berwyn	Prince George
BAUER, J. W.	Havre de Grace	Harford
COBEY, H. S.	Grayton	Charles
COLE, W. G.	Baltimore	*Baltimore City*
COLE, W. P., JR.	Towson	Baltimore
DONALDSON, J. L.	Berwyn	Prince George
DUCKETT, J. W.	Davidsonville	Anne Arundel
FRERE, W. J.	Tompkinsville	Charles
GRASON, J. P.	Towson	Baltimore
GRAY, S. D.	Nanjemoy	Charles
HAMILTON, G. E.	La Plata	Worcester
HARDING, T. S.	Laurel	*District of Columbia*
MAXWELL, F. J.	Comus	Harford
MUNSON, W. C. D.	South Britain	Worcester
PRICE, E. H.	Washington	*Baltimore City*
SAUNDERS. O. H.	Rock Hall	*Baltimore City*
STABLER, S. S.	Brighton	Dorchester
STANTON, T. R.	Grantsville	Charles
STEFFENS, H. L.	Baltimore	Prince George
STRICKLAND, C. W.	Snow Hill	Montgomery
TRUE, L. G.	Washington	*Connecticut*
TYDINGS. M. E.	Havre de Grace	*District of Columbia*
WALTERS, H. M.	Pocomoke City	Kent
WARD, F. R.	Baltimore	Montgomery
WOOLFORD, M. H.	Cambridge	Garrett

SOPHOMORE CLASS

AIKENHEAD, W. M.	Easton	*West Virginia*
ANDREWS, O. R.	Hurlock	Baltimore
BENNETT, H. F.	Baltimore	Prince George
BERRY, R. B.	Washington	Carroll
BRADSHAW, H. J.	Deal Island	*Baltimore City*
BROOKS, T. R.	Hyattsville	Anne Arundel
BURNS, J. M.	Morgantown	*Baltimore City*
CHANEY, C. A.	Reisterstown	Carroll
CLARKE, N. L.	Laurel	Carroll
CRAPSTER, J. O.	Taneytown	Prince George
DALEY, J. W.	Baltimore	Somerset
DAVIDSON, T.	Davidsonville	Talbot
DAVIS, H. R.	Baltimore	Dorchester
DEVILBISS, H. R.	New Windsor	*Baltimore City*
DRACH, C. R.	New Windsor	*District of Columbia*

NAME.	POST OFFICE.	COUNTY.
DUCKETT, A. B.	Crisfield	Somerset
FURNISS, C. C.	Hyattsville	Prince George
GALBREATH, J. R.	Street	Kent
GLASS, D. W.	Baltimore	*Baltimore City*
HATTON, P. R. E.	Piscataway	Wicomico
HICKS, C. G.	Cambridge	Washington
HOEN, S.	Richmond	Talbot
JOVA, J. M.	Washington	*Baltimore City*
JUMP, W. G.	Chestertown	*Honduras*
KINGHORNE, J. W.	Baltimore	Baltimore
LANKFORD, G. A.	Salisbury	Somerset
LITTLE, P. R.	Funkstown	Prince George
LOWE, C.	McDaniel	Carroll
MANGUM, H. F.	Baltimore	Harford
MARTINEZ, S.	Salvador	*Baltimore City*
MAYS, W. H.	Glencoe	Prince George
MELVIN, W. H.	Crisfield	Dorchester
MUDD, E. A.	Cheltenham	*Virginia*
OTIS, H. G.	Sykesville	*District of Columbia*
PADGETT, W. J.	Baltimore	*Virginia*
REESE, J. C.	Gwynnbrook	Frederick
RUPPEL, M. H.	Baltimore	Prince George
SILVESTER, L. McD.	Portsmouth	Montgomery
SMITH, J. K.	Myersville	*District of Columbia*
SONNEBERG, A. T.	Bladensburg	Montgomery
STABLER, H.	Brighton	Frederick
STALEY, L. H.	Washington	Montgomery
TOLSON, R. L.	Silver Spring	Prince George
WENNER, C. F.	Brunswick	Montgomery
WHITE, F. M.	Dickerson	*Baltimore City*
WHITE, H. J.	College Park	Baltimore
WHITE, J. R.	Pooiesville	*Baltimore City*

FRESHMAN CLASS

AIKENHEAD, M. L.	Easton	*Cuba*
ANDERSON, F. E.	Childs	Frederick
BENSON, E.	Baltimore	*Baltimore City*
BIRD, R. G.	Milwaukee	*Baltimore City*
BURCH, T. R.	Berwyn	*Baltimore City*
BURRIER, E. R.	Baltimore	Carroll
CRAPSTER, B. W.	Taneytown	*Baltimore City*
DEMARCO, L. A.	Baltimore	*Baltimore City*
DENNIS, S. C.	Ocean City	Talbot

NAME.	POST OFFICE.	COUNTY.
FURST, W. A.	Baltimore	Cecil
GRACE, W. S.	Easton	*Baltimore City*
GUTIERREZ, F.	Sagua la Grande	*Wisconsin*
HEDGES, J. S.	Brunswick	Prince George
HOEY, H. L.	Baltimore	*Baltimore City*
HOOPER, T. H. H.	Baltimore	Carroll
HULL, W. B.	Westminster	*Baltimore City*
JOHNSON, C. W.	Baltimore	Worcester
KELLY, O.	Baltimore	*Baltimore City*
KEYS, B. G.	Baltimore	Talbot
KLINGER, G. P.	Washington	*District of Columbia*
LANCASTER, J. J.	Rock Point	Charles
LANHARDT, G. E.	Hyattsville	Prince George
LEDNUM, J. M.	Preston	Caroline
LONG, N. E.	California	St. Mary
LYON, T. A.	Hyattsville	Prince George
MILLER, J. A.	Mt. Carmel	Baltimore
MOORE, O. M.	Mt. Washington	Baltimore
MORRIS, J. C.	Riverdale	Prince George
MUDD, K.	La Plata	Charles
OLIVER, S.	Brooklyn	*New York*
O'NEILL, H. H.	Bladensburg	Prince George
PADGETT, W. R.	Baltimore	*Baltimore City*
PONT, M.	Abonito	*Porto Rico*
POSEY, G. B.	Riverside	Charles
REDMOND, B. J.	Charleston	Harford
ROBY, V.	Pomfret	Kent
ROTH, I. H.	McKeesport	Allegany
RUSH, C.	Baltimore	Allegany
SEVERE, W. E.	Riverdale	*District of Columbia*
SHOWELL, J. D., Jr.	Ocean City	Montgomery
SOHL, J. R.	Baltimore	Prince George
SONNENBERG, H.	Bladensburg	Prince George
SPANGLER, G. M.	Washington	Somerset
STANTON, A. C.	Grantsville	Garrett
STIFLER, F. R.	Bel Air	*West Virginia*
STRONG, W. R.	Chestertown	Charles
TRIMBLE, E.	Mt. Savage	*Pennyslvania*
TWIGG, H. L.	Twiggtown	*Baltimore City*
WARFIELD, W. L.	Takoma Park	Prince George
WARTHEN, N. R.	Kensington	Worcester
WELLS, H. C.	Hyattsville	*Baltimore City*
WHITE, W. H.	College Park	Prince George

NAME.	POST OFFICE.	COUNTY.
WILKINS, P. O.	Rehoboth	*District of Columbia*
WILSON, W. C.	Mt. Lake Park	Garrett

SECOND YEAR AGRICULTURAL

HOEN, R.	Richmond	*Virginia*
MOSS, C. R.	Burke's Garden	*Virginia*
MOSS, W. O.	Burke's Garden	*Virginia*

FIRST YEAR AGRICULTURAL

BOWMAN, C. O.	Woodlawn	Baltimore
BRINKERHOFF, J. A.	Kensington	Montgomery
FRITZ, C. R.	Medford	Carroll
LABADIE, P.	Ysabela	*Porto Rico*
SAN ROMAN, C.	Lima	*Peru*
SERRANO, M. J.	Cucuta	*Columbia*
STOCKETT, G. F.	Washington	*District of Columbia*
THOMAS, A. L.	Baltimore	*Baltimore City*
TOWERS, I. L.	Chevy Chase	Montgomery
WILLIS, H. D.	Hyattsville	Prince George
ZIMMERMAN, R. E.	Baltimore	*Baltimore City*

FIRST YEAR HORTICULTURAL

MALCOLM, D. C.	Washington	*District of Columbia*

PREPARATORY CLASS

ALFERT, J.	Sagua la Grande	Prince George
AMES, H. B.	Rosslyn	Somerset
ARANGO, A.	Camagney	Prince George
BEALL, R. G.	Berwyn	*Peru*
BEAUCHAMP, E. F.	Westover	*Peru*
BIERMAN, H. E.	Berwyn	Prince George
BOZA, J.	Ica	*Porto Rico*
BOZA, O.	Ica	Prince George
BURGESS, H. E.	Hyattsville	Caroline
CASTRO, P. L.	Caborojo	Prince George
CHICHESTER, W. S. B.	Aquasco	*Baltimore City*
CORTELYOU, W.	Goldsboro	*Cuba*
EDDY, A. E.	Berwyn	*Virginia*
FREDERICK, E. H.	Baltimore	*Cuba*
FOWLER, S. B.	Kensington	Prince George
GRAHAM, M. R.	Sunderland	*Baltimore City*

NAME.	POST OFFICE.	COUNTY.
HUGHES, R. H.	Berwyn	Montgomery
LEIMBACH, W. D. H.	Baltimore	Calvert
MASON, A. W.	Baltimore	Prince George
OFFTERDINGER, T. T.	Washington	Baltimore
OLIVARES, D. J.	Maracaibo	*Pennsylvania*
O'NEILL, F. H.	Washington	Prince George
RITTER, T. E.	Towson	Garrett
SCHONBERGER, M.	McKeesport	*Peru*
SHIPLEY, H. B.	College Park	Prince George
SPERRY, W. L.	Mt. Lake Park	Somerset
TANGUIS, L.	Pisco	*Baltimore City*
WHITE, A.	College Park	*Baltimore City*
WHITTINGTON, N. T.	Marion	*District of Columbia*
WIEGEMAN, S. W. E.	Berwyn	*Venezuela*
WRIGHT, M.	Baltimore	*District of Columbia*

TEN-WEEKS WINTER COURSE

COLLIER, W. H. O.	Easton	Talbot
DEXTER, R. B.	Trappe	Talbot
GONNSEN, H. P.	Mt. Washington	Baltimore
MC'GINNES, W. H.	Millington	Kent
ROBY, R. R.	Laurel	Prince George
SCUTT, A. R.	Corbett	*Virginia*
WILSON, J. M.	Bier	Allegany
WOLFE, J. E.	Galena	Kent

INSPECTOR'S CLASS

AARONSON, J. E.	Easton	Talbot
BALDERSTON, E.	Colora	Cecil
BROWN, C. C.	Chestertown	Kent
DARBY, J. W.	Gaithersburg	Montgomery
DAVIDSON, W. B.	Fowblesburg	Baltimore
DAVIS, F.	Street	Harford
HANSON, A. L.	McConchie	Charles
KLEIN, C. E.	Frederick	Frederick
KRUMBINE, H. S.	Schaefferstown	*Pennsylvania*
MASON, W. R.	Oakland	Garrett
WALSH, J.	Westminster	Carroll

SUMMARY OF STUDENTS.

Graduate Students	6
Senior Class	21
Junior Class	27
Sophomore Class	47
Freshman Class	54
Second Year Agricultural	3
First Year Agricultural	11
First Year Horticultural	1
Preparatory Students	31
Ten-Week Course	8
Inspector's Class	11
Total	220

LIST OF PRESIDENTS AT THE MARYLAND AGRICULTURAL COLLEGE.

1.	Prof. Benjamin Hallowell,	President of the Faculty	1859—1860
2.	Rev. J. W. Scott	" " " "	1860—1860
3.	Prof. Colby	" " " "	1860—1861
4.	Prof. Henry Onderdonk	" " "	1861—1864
5.	Prof. N. B. Worthington	" " " "	1864—1867
6.	Prof. C. L. C. Minor	President of College	1867—1868
7.	Admiral Franklin Buchanan	" " " "	1868—1869
8.	Prof. Samuel Regester	" " " "	1869—1873
9.	General Samuel Jones	" " " "	1873—1875
10.	Capt. W. H. Parker	" " " "	1875—1883
11.	Gen. Augustus Smith	" " " "	1883—1887
12.	Allen Dodge, Esq. Pro Tem.	" " " "	1887—1888
13.	Major Henry E. Alvord	" " " "	1888—1892
14.	R. W. Silvester, LL. D.	" " " "	1892——

LIST OF GRADUATES WITH DEGREES AND ADDRESSES.

The following members of the various graduating classes have been located. Any information leading to further additions and addresses and occupations of Alumni will be gratefully received.

CLASS OF '62.

*Franklin, J., B. S.
Sands, W. B., A. B., Lake Roland, Md.

CLASS OF '63.

*Calvert, C. B., A. B.

CLASS OF '64.

Hall, D., A. M.
Todd, W. B., B. S.

CLASS OF '66.

Hall, E., A. B., Millersville, Md.
*Roberts, L., Ph. B.
Waters. F., A. B., West River, Md.

CLASS OF '71.

Soper, F. A., A. B. (M. A. '74), Balto. City College, Baltimore, Md.

CLASS OF '73.

*Henry, R. S., A. B. (M. A. '75).
Miller, O., A. B. (M. A. '75).
Regester, A., A. B.
Worthington, D., A. B.
Worthington, W., A. B.

CLASS OF '74.

Coffren, J. H., B. S. (M. A. '77).
Davis, H. M., A. B. (M. A. '77), Poolesville, Md.
Griffith, L. A., A. B. (M. A. '77), Upper Marlboro, Md.
Norwood, F. C., A. B. (M. A. '77), Frederick, Md.

---

*Deceased.

CLASS OF '75.

Gray, J. B., A. B. (M. A. '78), Prince Frederick, Md.
Hyde, J. F. B., A. B., 1803 Bolton Street, Baltimore, Md.
Lerch, C. E., B. S., 100 Hanover Street, Baltimore, Md.
Miller, L., B. S., El Paso, Texas.

CLASS OF '76.

*Blair, W. J., B. S. (M. S. '79).
Thomas, T. H., B. S., Maddox, Md.
*Worthington, J. L., B. S.

CLASS OF '77.

*Beall, R. R., B. S.
Emack, E. G., B. S., District Building, Washington, D. C.
*Thomas, G., B. S.
Truxton, S., B. S.

CLASS OF '78.

Thomas, W., B. S.

CLASS OF '80.

Gale, H. E., A. B., 260 W. Hoffman St., Baltimore, Md.

CLASS OF '81.

Houston, T. T., A. B.
Mercer, R. S., A. B.
Porter, W. R., A. B.
Rapley, R. R., B. S., 1931 16th St., N. W., Washington, D. C.
Thomas, W. H., A. B., Westminster, Md.
Wood, C. W., A. B.

CLASS OF '82.

Bowen, P. A., Jr., A. B., 1413 G St., N. W., Washington, D. C.
Freeland, H., A. B., Mutual, Calvert Co., Md.
Saunders, C. A., A. B.
Stonestreet, J. H., A. B., Barnesville, Md.
Wenner, C., A. B.

---

*Deceased.

CLASS OF '83.

Chew, R. B. B., A. B., 512 F St., N. W., Washington, D. C.
Kirby, W. A., A. B., Trappe, Md.
Lakin, W. A., A. B.
Rapley, E. F., A. B., 628 Louisiana Ave., Washintogn, D. C.

CLASS OF '84.

Martin, F., B. S.
Lakin, W. T., A. B., Cumberland, Md.

CLASS OF '88.

Chambliss, S. M., A. B., News Building, Chattanooga. Tenn.
Hazen, M. C., B. S., 213 11th St., N W., Washington, D. C.
Johnson, L. B., A. B., Morganza, Md.
*Sigler, W. A., B. S.
Smith, R. E., B. S., Ridgely, Md.
Tolson, A. C., A. B., Gunther Building, Baltimore Md.
Weems, J. B., B. S.

CLASS OF '89.

Griffith, T. D., B. S., Redland, Md.
Lewis, G., B. S., Whitehead, Tenn.
Pindell, R. M., B. S., Civil Service Commission, Washington, D. C.
*Saulsbury, N. R., B. S.
Witmer, F., B. S., Hagerstown, Md.

CLASS OF '90.

Calvert, R. C. M., B. S., Bangalore, India.
Keech, W. S., B. S., Towson, Md.
Manning, C. C., B. S., 16 Avon Street, Portland, Me.
*Niles, E. G., B. S.
Russell, R. L., B. S., Anadarko, Okla.
Soles, C. E., B. S., McKeesport. Pa.

CLASS OF '91.

*Branch, C., B. S.
*Langley, J. C., B. S.
Latimer, J. B., B. S., Broomes Island, Md.
*Penn, S., B. S.
Veitch, F. P., B. S., Agricultural Department, Washington, D. C.

---

*Deceased.

CLASS OF '92.

Besley, F. W., A. B., State Bureau of Forestry, J. H. U., Baltimore, Md.
Brooks, J. D., A. B., Medical Department, U. S. A.
Calvert, G. H., A. B., College Park, Md.
Chew, F., B. S.
Childs, N., B. S., Millersville, Md.
Gambrill, S. W., B. S., Fidelity and Deposit Co., London. England.
Johnson, E. D., A. B., West Pittston, Pa.
Ray, J. E., A. B., Chillum, Md.

CLASS OF '93.

Alvey, C., B. S., Hagerstown, Md.
Buckley, S. S., B. S., College Park, Md.
Graff, G. Y., B. S., 3323 Fourteenth Street, N. E., Washington. D. C.
Holzapfel, H. H., Jr., B. S., Hagerstown, Md.
Lawson, J. W., B. S., Southern Railway, Washington, D. C.
Sherman, H. C., B. S., Columbia University, New York, N. Y.

CLASS OF '94.

Best, H., B. S., Birdsville, Md.
Bomberger, F. B., B. S. (M. A. '02), College Park, Md.
Brown, A. S., B. S., Washington, D. C.
Cairnes, C. W., B. S., U. S. Revenue Cutter Service, New London, Conn.
Chiswell, B. M., B. S., Florence Court, Washington, D. C.
Dent, H. M., B. S.
Foran, T. E., B. S., Port Deposit, Md.
Key, S., B. S. (M. S. '02), 1716 H St., N. W., Washington, D. C.
*Pue, R. R., B. S.
Sudler, M. T., B. S. (M. S. '02), University of Kansas, Lawrence, Kan.
Weimer, C. H., B. S., Shamokin, Pa.

CLASS OF '95.

Bannon, J. G., B. S.
Claggett. G. H., B. S., Upper Marlboro, Md.
Compton, B., B. S., Woodmont, Conn.
Crapster, W. B., B. S., 402 Sixth St, Washington, D. C.
Edelen, G. S., B. S., The Caywood, Washington, D. C.
Graham, H. R., B. S., Chestertown, Md.
Harding, S. H., B. S., The Melwood, Washington, D. C.
Harrison, R. L., B. S., Geological Survey, Washington, D. C.

---

*Deceased.

*Jones, H. C., B. S.
McCandish, L., B. S., Reading, Pa.
McDonnell, C. C., B. S., Bureau of Chemistry, Washington, D. C.
Mulliken, C. S., B. S., Brookfield Center, Conn.
Skinner, W. W., B. S., Bureau of Chemistry, Washington, D. C.
Sliger, R. E., B. S., Oakland, Md.
Timanus, J. J., B. S., Towson, Md.
Wilson, G. W., Jr., B. S., Upper Marlboro Md.

CLASS OF '96.

Anderson, J., Jr., B. S., Rockville, Md.
Beale, R. B., B. S., General Electric Company, Schenectady, N. Y.
Crapster, T. G., B. S., U. S. S. Itasca, South Baltimore, Md
Dirickson, C. W., B. S., Berlin, Md.
*Eversfield, D., A. B.
Heyser, H. H., A. B., Hagerstown, Md.
Laughlin, J. R., B. S. (M. S. '01, M. A. '02), Hagerstown, Md.
Rollins, W. T. S., B. S., Post Office Department, Washington, D C.
Walker, C. N., B. S., Hyattsville, Md.

CLASS OF '97.

Calvert, C. B., A. B., College Park, Md.
Cronmiller, J. D., A. B., Laurel, Md.
Gill, A. S., B. S., 215 St. Paul St., Baltimore, Md.
Gill N. H., B. S., Cockeysville, Md.
Graham, J. G. R., A. B., 212 La Salle St., Chicago, Ill.
Heward, H., B. S., Water and Spruce Streets, Philadelphia, Pa.
Lewis, G., B. S., Straight Creek Coal and Coke Co., Pineville, Ky.
Nelligan, B. S., B. S., District Building, Washington, D. C.
Posey, F., A. B., Frederick, Md.
Queen, C. J., B. S., 165 State Street, Brooklyn. N. Y.
Schenck, G. K. W., B. S., 343 Boulevard, Rockaway Beach, N. Y.
Watkins, B., Jr., B. S., Rutland, Md.
Welty, H. T., B. S., 349 South Fourth Ave., Mt. Vernon, N. Y.
Weedon, W. S., B. S. (M. S. '98), Wilmington, Del.
Whiteford, G. H., B. S., Bellefonte, Pa.

CLASS OF '98.

Allnutt, C. V., A. B., Nueva Gerosa, Isle of Pines, Cuba.
Barnett, D. C., A. B. (M. A. '07), Cambridge, Md.
Burroughs, C. R., B. S., Tompkinsville, Md.

---

*Deceased.

Cameron, G. W., B. S., Birmingham, Ala.
Dennison, R. E., A. B., War Department, Washington, D. C.
Dickerson, E. T., A. B. (M. A. '03), Baltimore, Md.
Houston, L. J., Jr., A. B., 2310 N. Calvert Street, Baltimore, Md.
Lillibridge, J. A., A. B., Laurel, Md.
Mitchell, J. H., M. E., 2519 Grove Avenue, Richmond, Va.
Nesbitt, W. C., B. S., Southern Trust Co., Wilmington, Del.
Peterson, G., A. B., Carnegie Institute, Washington, D. C.
Ridgely, C. H., B. S., Sykesville, Md.
Robb, P. L., B. S., Baltimore City College, Baltimore, Md.
Whitely, R. P., A. B., Hyattsville, Md.

CLASS OF '99.

Blandford, J. C., M. E., Philippine Constabulary, Ilagan, Isabela, P. I.
Collins, H. E., A. B., Crisfield, Md.
Eyster, J. A. E., B. S., 1700 Linden Avenue, Baltimore, Md.
Galt, M. H., A B.
Gough, T. R., B. S., Newburg, Md.
Hammond, W. A., A. B., 218 Law Building, Baltimore, Md.
Kenley, J. F., Jr., M. E., 403 North Second Street, Harrisburg, Pa.
McCandlish, R. J., B. S., Hancock, Md.
Price, T. M., B. S., Bureau of Animal Industry, Washington, D. C.
Robb, J. B., B. S., Department of Agriculture, Richmond, Va.
*Sedwick, J. O., B. S.
Shamberger, D. F., M. E., Sparrows Point, Md.
*Shipley, J. H., B. S.
Straughn, M. N., B. S., Bureau of Chemistry, Washington, D. C.
Whitehill, I. E., A. B., New Windsor, Md.

CLASS OF '00.

Choate, E. S., M. E., Roslyn, Md.
Church, C. G., B. S., Bureau of Chemistry, Washington, D. C.
Ewens, A. E., B. S., Atlantic City, N. J.
Grason, A. S. R., B. S., Towson, Md.
Groff, W. D., B. S., Owings Mills Md.
Jenifer, R. M., B. S., Loch Raven, Md.
Kefauver, H. J., A. B. (M. A. '01), Frederick, Md.
Peach, S. M., A. B., Upper Marlboro, Md.
Sappington, E. N., B. S.
Sudler, A. C., B. S., Equitable Building, Denver, Col.
Talbott, W. H., A. B., Willows, Md.
Weigand, W. H., B. S.

---

*Deceased.

CLASS OF '01.

*Cobey, W. C., B. S.
Hardisty, J. T., A. B., Collington, Md.
McDonnell, F. V., M. E., care of P. R. R., Toledo, Ohio.
Whiteford, H. C., B. S., Whiteford, Md.

CLASS OF '02.

Bowman, J. D., M. E., Rockville, Md.
Couden, J, B. S., 228 W. Bay Street, Jacksonville, Fla.
Darby, S. P., B. S., Washington, D. C.
*Fendall, W. S., M. E.
Hirst, A. R., B. S., Wisconsin Geological Survey, Madison, Wisconsin.
*Lansdale, H. N., B S.
Mitchell, R. L., B. S., La Plata, Md.
Mackall, L. E., A. B., 1906 North Calvert Street, Baltimore, Md.
Symons, T. B., B. S. (M. S. '04), College Park, Md.
*Wisner, J. I., B. S.

CLASS OF '03.

Cairnes, G. W., M. E., U. S. S. Algonquin, San Juan, Porto Rico.
Calderon, M. A., M. E. (B. S. '04), Lima, Peru.
Collier. J. P., M. E., 213 Fourth Street, Cincinnati, Ohio.
Dunbar, E. B., B. S., Springville, N. Y.
Garner. E. F., M. E., Cornell University, Ithaca, N. Y.
Matthews, J. M., B. S., Fidelity Building, Baltimore, Md.
Mayo, R. W. B., A. B. (M. S. '04), Biloxi, Miss.
Peach, P. L., M. E., Case School Applied Science, Cleveland, Ohio.
Page, C. P., M. E., U. S. Navy.
Walls, E. P., B. S. (M. S. '05), Barclay, Md.

CLASS OF '04.

Anderson. J. A., M. E., Test Bureau, B. & O. R. R., Baltimore, Md.
Burnside, H. W., A. B., Hyattsville, Md.
Choate, R. P., M. E., Sewerage Commission, Baltimore, Md.
Cruikshank, L. W., M E., 1711 North 18th Street, Philadelphia, Pa.
Gray, J. P., B. S., Wilmington, Del.
Mayo, E. C., M. E., Richmond, Va.
Merryman, E. W., M. E., Charles Street Ext., Baltimore, Md.
Mitchell, W. R., M. E., 500 Law Building, Baltimore, Md.
Mullendore, T. B., A. B., 602 South 52nd Street, Philadelphia, Pa.
Sasscer, E. R., B. S., Department of Agriculture, Washington, D. C.

---

*Deceased.

Shaw, S. B., B. S., Department of Agriculture, Raleigh, N. C.
Stoll, E. W., M. E., Philippine Constabulary, Iloilo, P. I.
Wentworth, G. L., M. E., 123 W. 44th St., New York.

CLASS OF '05.

Byron, W. H., B. S., Williamsport, Md.
Digges, E. D., B. S., Maryland Geological Survey, Baltimore, Md.
Duckett, F. M., Jr., B. S., Hyattsville, Md.
Hayman, E. T., B. S., Annapolis, Md.
Krentzlin, J. J. A., B. S., Washington, D. C.
Mackall, J. N., B. S., Maryland Geological Survey, Baltimore, Md.
Nicholls, R. D., B. S., Germantown, Md.
Parker, A. A., B. S., College of Physicians and Sugeons, Baltimore, Md.
Smith, W. T., B. S., Ridgely, Md.
Snavely, E. A., B. S., Industrial Works, Bay City, Mich.
Somerville, J. W. P., B. S., Cumberland, Md.
Sturgis, G., B. A. (M. A. '07), Snow Hill, Md.
White, W., B. S., 1215 F Street, Washington, D. C.

CLASS OF '06.

Bassett, L. E., B. S., Oakland, Md.
Caul, H. J., B. S., Vega Alta, Porto Rico.
Dixon, R. H., Jr., B. S., Maryland Geological Survey, Baltimore, Md.
Graham, J. J. T. B. S., Chestertown, Md.
Mayer, G. M., B. S., Frostburg, Md.
McNutt, A. M., B. S., Collingswood, N. J.
Mitchell, J. W., B. S., Brookline, Mass.
Ridgway, C. S., B. S., J. H. U., Baltimore, Md.
Showell, J. L., B. S., Virginia Theological Seminary, Fairfax Co., Va.
Thomas, S. P., B. S., Ednor, Md.
Waters, F. R. B., B. S., 1331 G Street, Washington, D. C.
Zerkel, L. F., B. A. (M. A. '07), Luray, Va.

CLASS OF '07.

Adams, M. H., B. S., Cornell University, Ithaca, N. Y.
Bowland, W. A. N., B. S., Fort Worth, Texas.
Capestany, R. L., B. S., Mayaguez, Porto Rico.
Firor, G. W., B. S., College Park, Md.
Harper, C. H., B. S., East Lansing, Mich.
Hatton, H. S., B. S., 316 12th St., N. E., Washington, D. C.
Halloway, E. S., B. S., Rosaryville, Md.
Hudson, M. A., B. S., Waxahachie, Texas.
Linnell, F. E., B. S., Station D., Baltimore Md.

Mahoney, W. T., A. B., Frederick, Md.
Mudd, J. P., B. S., Savage, Md.
Owings, H. H., B. S., Simpsonville, Md.
Vocke, S. T., B. S., 2648 Maryland Avenue, Baltimore. Md.
Williar, H. D., B. S., Catonsville, Md.

CLASS OF '08.

Becker, G. G., B. S., Cornell University, Ithaca, N. Y.
Brice, N. E., B. S., Cornell University, Ithaca, N. Y.
Brigham, R., B. S., Brinkton, Md.
Broughton, L. B., B. S., College Park, Md.
Byrd, H. C., B. S., Westminster, Md.
Cooper, B. R., B. S., Chestertown, Md.
Day, G. C., B. S., Castleton, Md.
Firor, J. W., B. S., Bethel Military Academy, Warrenton, Va.
Hoshall, H. B., B. S., Ellicott City, Md.
Long, U. W., B. S., Selbyville, Del.
Lowrey, S. L., B. S., Rossville, Md.
Oswald, E., B. S., Chewsville, Md.
Paradis, E. M., B. S., Altoona, Pa.
Plumacher, E. H., B. S., Philadelphia, Pa.
Plumacher. M. C., B. S., Philadelphia, Pa.
Reeder, W. C., B. S., Rising Sun, Md.
Ruffner, R. H., B. S., College Park, Md.
Rumig, F. E., B. S., Philadelphia, Pa.
Shamberger, J. P., B. S., Savage, Md.
Silvester, R. L., B. S., College Park, Md.
Solari, C. S., B. S., University of Ohio, Columbus, Ohio.
Somerville, W. A. S., B. S., Cumberland, Md.
Stinson, H. W., B. S., Columbia, Md.
Sylvester, C. S., B. S., 165 Botetourt St., Norfolk, Va.
Thomas, W. H., B. S., Lares, Porto Rico.
Warren, N. L., B. S., Selbyville, Del.
Warthen, C. A., B. S., Maryland Geological Survey, Baltimore, Md.
Wilson, R. A., B. S., Fairmount, W. Va.

INDEX

	Page.
Advanced Courses	99
Agricultural Course	71
Agriculture, Department of	17
Agriculture, Four-Year Course	17, 71
Agriculture, Ten-Week Course	17, 76
Agriculture, Two-Year Course	17, 75 89
Agronomy, Courses	18
Alumni	121, 135
Animal Husbandry, Courses	21
Articles to be Provided	118
Assistants	5
Athletics	66, 123
Bacteriology	68
Band	63, 125
Biological Course	77
Board of Trustees	2-3
Botanical Department	25
Buildings	12
Calendar	8
Candidates for Degrees	123
Chemical Course	77
Chemical Department	28
Civics	44
Civil Engineering Course	81
Civil Engineering Department	33
Committees	3, 7
Courses of Study	71
Degrees	109
Departments	16
Discipline	62
Drawing	34, 56
Economics	44
Electrical Engineering Course	36, 81
Elocution	65
Endowment	9
Engineering	33, 55
English and Civics Department	41
English Courses	42
Entomological Department	45
Equipment and Work	18
Examinations	108
Expenses of Students	116
Experiment Station	10
Faculty	4
Farmers' Courses	76, 89
Fees	117
Forestry	24
French	53
General Aim and Purpose	13
General Course	84
General Information	108
Geology	20
German	52
Graduation	109
Historical Sketch	9
History Courses	44
Horticultural Course	84, 87
Horticultural Department	48
Languages, Department of	51
Latin	52
Library	69
Literary Societies	119
Location and Description	11
Logic	43
Mathematics, Department of	53
Matriculation	107, 114
Mechanical Engineering Course	87
Mechanical Engineering Department	55
Medals Awarded	124
Military Department	59
Military Organization	125
Officers and Faculty	7
Oratorical Association	121
Oratory, Department of	64
Organizations	119
Pathology, Plant	25
Payments	117
Physical Culture	66
Physics, Department of	40
Physiology	58
Pledges	114
Preparatory Work	89
Presidents of College	134
Promotions	62, 108
Psychology	43
Public Speaking	64
Regulations	114
Religious Opportunities	113
Reports	108
Requirements for Admission	107
Reveille	120
Roster of Students	128
Rules	114, 115
Sanitary Advantages	13
Scholarships	112
Student Opportunities	113
Student Organizations	119
Surveying	34
Synopsis of Courses	89
Ten-Week Course	76
Theses	123
Two-Year Courses	87, 89
Uniform	61, 118
Vegetable Pathology	25
Veterinary Science Department	67
Y. M. C. A.	119
Zoology	46